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BRITISH BIRDS

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BRITISH BIRDS

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SOME BREEDING-HABITS OF THE SPARROW-HAWK.

(1) THE EFFECT OF RAIN.

BY

J. H. OWEN.

FOR some years, with the help of some of the members of the Felsted School Scientific Society, I have been studying the Sparrow-Hawk (*Accipiter n. nisus*) very carefully and regularly. On more than one occasion we found nests in suitable places for building observation-huts, but these nests were always robbed. In 1915, however, we were more fortunate and watched from huts two nests during the time they contained nestlings. In all we spent just nine weeks in watching operations, one or other of us being in the hut whenever there was a sufficient interval between school hours to make it worth while. The boys, to whom I am greatly indebted for help in building the huts, watching, and for their notes, were A. P. Adams, C. J. Johnson and F. N. Stocker.

The period during which the young remain in the nest is twenty-eight to twenty-nine days from the date of the hatching of each. Until the youngest is thirteen or fourteen days old, the hen broods almost constantly, and during this time there is not much difference in the brooding in wet and fine weather. In wet weather she does not puff out her breast feathers quite so much, but tries to expand herself sideways so as to cover as great an area as possible. To this end she slightly raises her wings from her body but without opening them much. She is also very careful to see that the heads of all the young are protected from the rain.

Whenever rain falls, the hen hurries back to the nest and quickly commences to brood. She spends very little time looking about, but proceeds to push her way over the young. Now and then she halts and looks round to see where the youngest is, and is particularly careful

about covering that one well, and I have seen her stop three or four times for this purpose. (Figs. 1 and 2.) When she is satisfied with the way she is covering the young she may not move for several minutes. On the other hand she may, if the rain is very heavy, shake her head now and then or look up as a leaf flutters down from



Fig. 1. SPARROW-HAWK. LOOKING FOR THE YOUNGEST NESTLING AT THE BEGINNING OF A STORM.

(Just after the end of the brooding period).

(Photographed by J. H. Owen.)

the tree. The look in the eye varies continually and has many "expressions," such as alertness, fierceness, weariness, sheer boredom and calm satisfaction among others. Under these circumstances, too, the young keep the same positions, without the least sign of movement, for very long periods. If the hen wishes to get one more under cover she hauls it in with the curved part of her bill: in this act, although she uses very considerable

force, she is not violent and certainly causes the young no pain.

If the old bird is, for some reason, slow in coming to the nest in a shower, the young crowd together with their heads in the middle and do not stir when the hen comes on. I have also seen her leave the nest with them still



Fig. 2. SPARROW-HAWK. THE HEN LOOKING FOR THE YOUNGEST NESTLING AT THE COMMENCEMENT OF A THUNDERSTORM.

(Youngest bird 21 days old).

(*Photographed by J. H. Owen.*)

in the same position, and then no movement takes place for another quarter of an hour at least.

It seems an invariable rule that in wet weather the hen always broods with her back to the wind. The position, or rather arrangement of the body and wings, over the young varies considerably. In the most usual position, when the young are big enough to require it, the wings are slightly out from the body and depressed



Fig. 3. SPARROW-HAWK. IN THE MIST OF A THUNDERSTORM.
(*Photographed by C. J. Johnson.*)

stiffly : the primaries are all separated and occasionally some of the secondaries as well. (Fig. 3.) Each of these then acts as a watercourse to drain the upper portions of the wings. The bird is not absolutely lying on the young but crouching over them. (Fig. 4.) At other times she stands up and throws one wing out over the young



Fig. 4. SPARROW-HAWK. DURING A TERRIFIC THUNDERSTORM.

(Youngest bird on left).

(*Photographed by J. H. Owen.*)

and then gradually sinks down until this wing rests on them. (Fig. 5.)

Our experience was that the hen would always brood the young, or perhaps it ought to be said shelter them, in heavy rain, provided none of the brood had left the nest. After that we think that she would be unlikely to do so, but our information is limited on the point.



FIG. 5. SPARROW-HAWK. GATHERING THE YOUNG UNDER THE WING AT THE BEGINNING OF
A THUNDERSTORM.

(Photographed by J. H. Owen.)

We never saw it done, though we watched through some tremendously heavy rain in early August until only two young remained in the nest.



Fig. 6. SPARROW-HAWK. WAITING PATIENTLY FOR THE STORM
TO PASS.

(Young 21 days old and upwards).

(*Photographed by J. H. Owen.*)

Ordinarily, after the young are a few days old, the hen does not require her mate to bring food to the nest. In rain, and especially in heavy rain, this is not so. She takes no notice at all of his calls and he has to bring

the food and deposit it on the nest. Then, unless the rain is extraordinarily heavy, the hen will break it up. Occasionally the rain is so heavy that she is unwilling to leave the young exposed, even for the minute or two this task would take. I have seen the carcass of a Skylark lying unheeded on the nest for more than an hour while the rain pelted down.

A point I gathered was that the cock hunted through these storms unless they were exceptionally severe ; that he did not always do so is only conjecture. I certainly saw him hunting in one very severe storm (pelted rain and a regular gale), and it seemed to have absolutely no effect on his movements, for he travelled at a great pace against the wind.

When the young get wet, the dampness as a rule only extends to the down or plumage on their backs. This gets very matted and then the water courses off it quite freely, so that in no case did I see them get moisture on the skins. When they got really wet and matted they seemed to leave the plumage alone for nearly half an hour after the hen had left them before they made any attempt to clean and preen themselves.

After one series of tremendous thunderstorms, each with very heavy rain or hail in quick succession, I had the good fortune to see the hen drying her plumage. Through getting off to feed the young between two storms, and, being put off by me on my return, she had changed her position at least twice without having a chance to dry herself. She was therefore in a very bedraggled condition when the thunder passed away. The rain ceased and a wind rose and the sun came out brightly. She first of all fed the young and then perched a few yards from the hut upwind. She changed her position now and then, sometimes putting herself on a dead branch full in the sun and at other times taking a position in the shade. She turned her back to the sun and spread her wings to it : they were held partly extended and depressed, and the primaries well separated.

The tail was fanned out to its widest extent. She occasionally scratched her head with her toe to comb out the moisture, while later on she began to preen her breast. Sometimes one wing only was extended, and then the tip was lower than when both were extended. Often the tail was only partially opened. In the various positions she would stand absolutely motionless for a minute or more at a time. When she got in the shade she was more active in her movements and kept her back to the wind and continually opened and shut her wings and tail, letting the wind go through the feathers. Once, however, she held her tail widely fanned for more than three minutes. Later on she moved on to a very sunny dead branch and stood with wings widely expanded and the flight feathers separated. As she was then facing me I could see the markings on the feathers under the wings quite easily. She then closed her wings and opened the tail. She was now fairly dry, but kept on opening her wings and tail to the sun for some time. She then began to go over her plumage carefully with her bill and paid particular attention to the flight feathers and greater coverts.

After forty-nine minutes she stopped preening, and became sleepy and watchful by turns for another seven minutes, and then flew away presumably to meet the cock.

THE MOULTS OF THE BRITISH PASSERES, WITH NOTES ON THE SEQUENCE OF THEIR PLUMAGES.

BY

H. F. WITHERBY.

PART V.

(Continued from Vol. IX., page 316).

FAMILY MOTACILLIDÆ.

The members of this family, comprising the Pipits and Wagtails, all have very similar moults, differing only in details. The adults have a complete autumn moult and a spring moult involving the body-feathers, a varying number of wing-coverts, usually some of the innermost secondaries and the central pair of tail-feathers, occasionally the outer pair of tail-feathers and exceptionally all the tail-feathers. This moult varies in details in species and also individually in the same species.

The moult from the juvenile to the first winter is very much like that of the adult in spring, but usually more restricted with regard to the wing-coverts, innermost secondaries and tail, but the extent of this moult varies in different species. The first spring moult is usually like that of the adult.

In the Pipits there are sexual and seasonal differences in the adults of the Red-throated and Water-Pipits only. The juveniles do not differ very markedly from the adults and the first winter birds only in three species.

In the Wagtails, on the other hand, the adult male and female, the winter and summer plumages, the juvenile and the first winter and summer plumages all have differences.

RICHARD'S PIPIT (*Anthus r. richardi*).

ADULTS.—Complete moult in August or September. From March to May there is a moult involving the body-plumage, most of the wing-coverts (not primary-coverts), innermost secondaries, central pair of tail-feathers, and occasionally the outer pair. The extent of this moult varies individually. There is no sexual nor seasonal difference in the plumage.

JUVENILE.—The juvenile has the upper-parts, wing-coverts, innermost secondaries and central tail-feathers brown-black, evenly margined with buffish-white, giving it the appearance

of a juvenile Lark. The breast and sides of the throat are usually more streaked than in the adult.

FIRST WINTER.—The juvenile body-feathers and a few wing-coverts, but not any of the wing- or tail-feathers, are usually moulted from August to November, and the new feathers are like those of the adult, but frequently a number of the juvenile body-feathers are retained until the spring moult. FIRST SUMMER.—The moult is like that of the adult but rather more complete, the remaining juvenile wing-coverts (not primary-coverts), innermost secondaries and central tail-feathers being apparently always moulted. After this moult the bird is like the adult.

TAWNY-PIPIT (*Anthus campestris*).

ADULTS.—Complete moult in August to November. From March to April there is a moult much as in Richard's Pipit, but the innermost secondaries and central tail-feathers are only occasionally moulted, and I have not found any case in which the outer pair of tail-feathers were moulting. There is no sexual or seasonal difference in the plumage except that when much worn in summer the upper-parts become darker and less sandy-brown.

JUVENILE.—Except for its smaller tarsus and foot, the juvenile much resembles that of Richard's Pipit.

FIRST WINTER.—The juvenile body-feathers and a varying number of wing-coverts and innermost secondaries and sometimes the central pair of tail-feathers are moulted from July to November. The extent of this moult varies considerably individually. The new feathers are like those of the adult. FIRST SUMMER.—The moult is like that of the adult. The remaining juvenile median and lesser wing-coverts appear always to be moulted, but not necessarily the innermost secondaries and central tail-feathers, the edges of which become so worn as to make them indistinguishable from adults.

TREE-PIPIT (*Anthus t. trivialis*).

ADULTS.—Complete moult in August or September. From January to March there is a moult involving the body-feathers, wing-coverts (some outer, greater, and median occasionally do not moult and primary-coverts never do), innermost secondaries, central tail-feathers and exceptionally the outer tail-feathers or all the tail. There is no sexual or seasonal difference in the plumage, except that when worn in summer the dark markings of the upper- and under-parts become

more accentuated and the throat, breast and flanks become whiter and less buff.

JUVENILE.—Much like the adult, but the upper-parts more buff and not so greenish and more prominently streaked, and flanks with only very fine dark streaks.

FIRST WINTER.—The juvenile body-feathers are moulted in August or September, but not the wing- or tail-feathers, primary-coverts, greater or median wing-coverts. The new feathers are like those of the adult, but a certain number of juvenile body-feathers are sometimes retained until the bird reaches winter quarters. The spring moult is as in the adult.

MEADOW-PIPIT (*Anthus pratensis*).

ADULTS.—Complete moult in August to October. From January to March there is a moult similar to that of the Tree-Pipit. There is no sexual or seasonal difference in the plumage except that when much worn the upper-parts become very dark and the under-parts whiter and more boldly streaked, owing to the edges and tips of the feathers wearing away.

JUVENILE.—Like the adult but more boldly streaked on the upper-parts, the pale edgings to the feathers being narrower; usually tinged with yellow on the under-parts.

FIRST WINTER.—The juvenile body-plumage is moulted from July to October, but not the wing- or tail-feathers, primary-coverts or greater or median wing-coverts. The bird then becomes like the adult and the spring moult is the same as in the adult.

RED-THROATED PIPIT (*Anthus cervinus*).

ADULTS.—Complete moult in July or August. From January to April there is a moult similar to that in the Tree-Pipit. The adult male in winter has the lores, superciliary stripe, chin and throat pearly- to buffish-pink and the breast pale buff to pinkish-buff broadly streaked with brown-black; in summer the upper-breast varies individually, becoming uniform pink like the throat, or with a few narrow streaks, or as much streaked as in winter but more pink. The adult female in winter has the lores, eye-stripe, chin and throat buffish-white; in summer some examples are indistinguishable from males, but usually the breast is more streaked and not so pink and the chin and throat more buffish and less pink, while in late summer the chin and throat often become whitish.

JUVENILE.—Much like the adult winter female but with the chin buffish-white and the sides of the throat heavily streaked like the breast, the buff of the under-parts more yellowish.

FIRST WINTER.—The juvenile body-feathers are moulted in August, but not the wing- or tail-feathers, primary-coverts, or greater and median wing-coverts. The male is like the adult winter female, but the chin and throat are often tinged with buffish-pink. The female I cannot distinguish from the adult. FIRST SUMMER.—Moult as in the adult, after which they cannot be distinguished with certainty, but those males with much streaking on the breast and those females with little pink on the throat *may* be first summer birds.

WATER-PIBIT (*Anthus s. spinoletta*).

ADULTS.—Complete moult in August or September. In March or April there is a moult involving the body-plumage, usually some of the innermost secondaries and central tail-feathers and often some wing-coverts. In summer the upper-parts (especially the head) are greyer-brown than in winter, the eyestripe is broader and more distinct and is sometimes tinged with pink, the chin, throat and breast become pale buffish-pink usually unstreaked except for a few fine streaks on the flanks and an occasional unmoulted winter streaked feather on the breast. The sexes are alike but in summer unmoulted winter feathers seem more frequent in females which usually do not become so pink as the males.

JUVENILE.—Much like the adult winter but with the dark centres of the feathers of the upper-parts more prominent.

FIRST WINTER.—The juvenile body-plumage, lesser wing-coverts, and usually the median and some inner greater wing-coverts and some innermost secondaries are moulted in August, but not the rest of the wings nor the tail. The new plumage is like that of the adults and the spring moult and summer plumage are apparently the same as in the adults.

ROCK-PIBIT (*Anthus s. petrosus*).

ADULTS.—Complete moult August to October. From February to April there is a moult involving the body-plumage and occasionally lesser and median wing-coverts and some of the innermost secondaries; rarely all the tail-feathers but usually not any. The primary-coverts, greater coverts and the rest of the wing-feathers are not moulted.

The sexes are alike and there is very little difference in the winter and summer plumages, but in the summer plumage the upper-parts are very slightly less olive and the under-parts slightly more whitish.

JUVENILE.—Like the adult but the upper-parts slightly browner, the chin and throat speckled with blackish and the

sides of the throat darker than in the adult ; the streaks on the breast are rather darker and narrower.

FIRST WINTER.—The juvenile body-plumage, lesser wing-coverts and usually the median and some greater wing-coverts and some innermost secondaries are moulted in August and September, but not the tail- or wing-coverts. The new plumage is like that of the adults and the spring-moult and summer plumage are apparently the same as in the adults.

Motacilla flava.

The six subspecies of this species on the British List all have the same moults

ADULTS. — Complete moult in August or September. There is a moult from January to April which involves the body-plumage, most of the lesser and median wing-coverts, many inner greater wing-coverts and usually the innermost secondaries and central tail-feathers, but not the primary-coverts nor the rest of the wing and tail-feathers, though exceptionally the whole tail moults. There is considerable variation in individuals in the extent of the moult, but it seems to be the rule that in *M. f. rayi* the central tail-feathers are not so frequently moulted as in the other forms of *M. flava*. As Dr. N. F. Ticehurst described in our first volume the differences in the various forms, I need not here discuss them.

JUVENILES.—The juveniles of *M. f. flava*, *thunbergi* and *rayi* are alike, and I have not been able to examine juveniles of the other subspecies. The upper-parts are earth-brown, with blackish markings forming dark lines on the sides of the crown ; the chin, centre of throat and lower breast are pale buff, the sides of the throat from the bases of the lower mandible to the breast and a band across the breast are brown-black, while the rest of the under-parts are pale yellowish-buff.

FIRST WINTER.—The juvenile body-feathers and most of the wing-coverts are moulted from July to September, but not the primary-coverts nor the wing- or tail-feathers. The various forms when in this plumage are *usually* indistinguishable except for the first winter male of *M. f. feldegg*, which always has some black or blackish feathers on the fore-head.

FIRST SUMMER.—Moult as in adult. The new plumage of the male is like that of the adult male, but the female differs from the adult female in being browner on the upper-parts and whitish-buff instead of yellow on the throat and upper-breast.

GREY WAGTAIL (*Motacilla c. cinerea*).

ADULTS.—Complete moult from July to September. In February and March there is a moult involving the body-feathers and usually the innermost secondaries and central tail-feathers, but not usually the rest of the wings and tail, though rarely the whole tail and a good many inner wing-coverts are moulted. In winter the sexes do not greatly differ, the female being only slightly more buffish on the upper-breast and slightly paler yellow on the belly. In summer the male acquires a black chin and throat with broad white malar stripes and the breast becomes yellow like the belly. The female is never so black on the chin and throat, which are usually a mixture of white, black, and dull yellow.

JUVENILE.—The crown and mantle are greyish-brown instead of slate-grey as in the adult, the eye-stripe, chin, throat and upper-breast are pale buff with a few greyish-black mottlings on the sides of the throat, the rest of the breast and belly are very pale yellow and the under tail-coverts brighter yellow, the fringes and tips of all the wing-coverts are buff.

FIRST WINTER.—The juvenile body-feathers, lesser and median wing-coverts and usually greater wing-coverts, innermost secondaries and central pair of tail-feathers are moulted from July to September, but not the primary-coverts nor the rest of the wing- and tail-feathers. The male and female in this plumage are more brownish on the upper-parts than the adult, and the upper-breast is more buff even than in the adult female, while the belly is very pale yellow and often whitish. FIRST SUMMER.—Moult as adult. The male becomes like the adult, but it is probable that those females with the chin and throat white or yellowish-white without any black are first summer birds.

PIED WAGTAIL (*Motacilla a. lugubris*).

ADULTS.—Complete moult from August to November. There is a moult from January to March which involves the body-plumage and often the lesser wing-coverts, some inner greater and median wing-coverts, some innermost secondaries and the central tail-feathers, but not the primary-coverts nor the rest of the wing- and tail-feathers. In winter the mantle of the adult male has some dark grey feathers mixed with the black, while the adult female usually has more grey than the male and also has less dark flanks, and the wing-feathers and wing-coverts are tinged with brownish and are not so pure black. In summer, while the male has

practically the whole upper-parts jet black with only a few dark grey feathers here and there, the female has more dark grey and also the black of the breast does not extend so far down.

JUVENILE.—There is a narrow dark or blackish line across the fore-head and down the sides of the crown, otherwise the crown, like the mantle and back, is grey tinged with buffish-brown, the rump is sooty brown-black, but the upper tail-coverts are more glossy black like the adult, the lores, line over eyes and ear-coverts are dull buffish-white, mottled with dark smoke, the chin and throat are also dull white, many of the feathers, especially on the sides, being tipped with sooty brown-black, the crescentic breast-band is also sooty brown-black and the breast and flanks are smoke-grey, while the rest of the under-parts are duller white than in adults.

FIRST WINTER.—The juvenile body-feathers, lesser wing-coverts, most median and inner greater coverts, and some innermost secondaries are moulted from August to October, but not the primary-coverts nor the rest of the wing- and tail-feathers. The male differs from the adult male in being tinged with yellowish on the fore-head, ear-coverts and sometimes the chin and throat; the fore-head is also usually mottled with black, the back of the crown often has some grey feathers amongst the black ones, the mantle is dark grey slightly tinged with olivaceous, and has less black in it than the adult *female* in winter, the wing-feathers and wing-coverts are browner and have duller white edges and tips. The first winter female is very difficult to distinguish satisfactorily from the first winter male, but the crown has usually more grey in it and the mantle often has no black at all. **FIRST SUMMER.**—Moult as in adults, but some innermost secondaries, a good many greater and median wing-coverts and the central tail-feathers are more regularly moulted than in the adults, while rarely the whole tail is moulted. The first summer male is indistinguishable from the adult *female* in summer, except that its wing-feathers and the unmoulted wing-coverts are much browner. The first summer female is very similar, but has a greyer mantle usually with very little black.

WHITE WAGTAIL (*M. a. alba*).

Moult as in the Pied Wagtail.

ADULT MALE. WINTER.—Much like the *first winter* male Pied Wagtail, but the mantle and scapulars purer and paler grey and never with black, the sides of the breast and flanks

paler grey and the breast and belly purer white, the wing-feathers not so brown, more greyish-black (not so black as in the adult male Pied Wagtail), the tips of the wing-coverts usually not so pure white as in the adult male Pied Wagtail. SUMMER.—Like winter, but with the chin and throat entirely black.

ADULT FEMALE. WINTER.—Differs from *first winter* female Pied Wagtail in being grey on the fore-head with sometimes a little dusky-white showing, only the bases of the feathers being white; the crown is much greyer with less black and the mantle is paler and never with black. SUMMER.—The fore-head becomes white, slightly mottled with black, the crown black mixed with grey on the nape, the throat black and the chin a mixture of black and white.

JUVENILE.—Difficult to distinguish from that of the Pied Wagtail, but usually rather paler on the upper-parts and with no dark line across the fore-head.

FIRST WINTER MALE.—Like the adult winter *female*, but with rather more black on the crown. SUMMER.—Like the adult summer male, but with browner wing-feathers.

FIRST WINTER FEMALE.—Like the adult winter female but very rarely with any white showing on the fore-head and the crown grey with no black and usually tinged olivaceous. SUMMER.—Like the adult summer female but the fore-head less white and the chin with more white, the wing-feathers browner.

(*To be continued.*)

THE LATE LIEUT.-COL. H. H. HARINGTON.

LIEUT.-COLONEL HERBERT HASTINGS HARINGTON, who was killed in Mesopotamia on March 8th, 1916, was born at Lucknow on January 16th, 1868, the son of Mr. Herbert Harington of the Oudh Commission. Educated at Malvern, he entered the Militia and in 1888 was gazetted a subaltern in the Welsh Regiment. Two years later he was appointed to the Indian Staff Corps and joined the 92nd Punjabis, with whom he served for over twenty years in Burmah, and in this country also he for five years was attached to the Burmese Police. In December 1914 he was promoted to Lieut.-Colonel, and in February 1916 was gazetted to the command of the 62nd Punjabis, and it was whilst leading this regiment into action that he was killed.

In 1909 Colonel Harington married Dorothy, the youngest daughter of the Hon. Walter Pepys, by whom he had a son and two daughters.

Colonel Harington had always been a keen lover of nature and natural history generally, but it was not until he went to Burmah that he really took up ornithology seriously. His first articles were written for the *Rangoon Gazette* and soon attracted notice on account of the careful and accurate observation they displayed. These articles he reproduced in book form in 1908-9, adding a valuable table showing the distribution of Burmese birds. He also contributed from time to time to the *Ibis*, the *Journal of the Bombay Natural History Society* and other periodicals, the most important of these contributions being his review of the Timeliidæ which appeared in the last named *Journal* during 1914-15.

Colonel Harington was the discoverer of a number of new forms, and several birds have been named after him in recognition of the good work he did. Amongst these may be mentioned *Polionetta haringtoni* Oates; *Oreicola f. haringtoni* Hartert; *Pomatorhinus e. haringtoni* Stuart Baker; *Garrulus haringtoni* Sharpe. E.C.S.B.



NOTES

PARROT-CROSSBILL IN NORFOLK.

As well identified examples of the Parrot-Crossbill (*Loxia pytyopsittacus*) seem to be very few in number, I think it important to record the following undoubted specimen from Norfolk.

Mr. Pashley, of Cley, told me that a bird he believed to be the Parrot-Crossbill was taken by a gamekeeper named John Forsdick, at Langham, a few miles inland, in September 1907. The specimen was lost sight of until the other day, when Pashley found the head only, the bird having been so knocked about when shot, that it was not worth mounting. The wing measurements were thus unfortunately lost, but I submitted the skull to Mr. Witherby and Dr. Hartert, who have both been kind enough to examine it with the utmost care; and express the opinion that it is a true Parrot-Crossbill. The bird was in red plumage, and apparently an adult male.

CLIFFORD BORRER.

EARLY NEST OF REED-WARBLER WITH CUCKOO'S EGG.

LAST year I recorded (*British Birds*, IX., p. 48) an early nest of the Reed-Warbler at Tring Reservoirs, Hertfordshire. This year, on May 14th, at the same place, Miss A. C. Jackson and I found a nest containing four Reed-Warbler's eggs and one Cuckoo's egg. This is a much earlier date than I have ever known Reed-Warblers to have eggs here, and so therefore is it for a Cuckoo's egg in a Reed-Warbler's nest. I have not myself found one of our "Reed-Warbler Cuckoo's" eggs before June 8th, but we have one taken by the keeper on May 23rd, 1907, from a Sedge-Warbler's nest. For fifteen years I have known this Cuckoo or these Cuckoos at the Tring Reservoirs to lay in Reed-Warblers' nests, and I only know of the one case of a Cuckoo's egg here in a Sedge-Warbler's nest. I doubt if there is more than one female, because all the eggs, of which I have altogether seen fifteen and of which twelve are now in the Tring Museum, are so much alike that they might well be eggs of one female. It would be interesting to know what the Cuckoo does this year with her other eggs, as on May 14th there was no other Reed-Warbler's nest near, and the Sedge-Warblers there were only beginning to lay, as we found one nest with a single egg. If it is true, as has been

suggested by Mr. Capek and Mr. Jourdain, that Cuckoos lay two "clutches" each year, the egg found on May 14th would be one of the first "clutch," while the second clutch would be laid in June, when there are plenty of Reed-Warblers' nests.

I may add that since writing the above Miss Jackson found on May 18th another Reed-Warbler's nest with one egg and saw two more Sedge-Warbler's nests with four eggs each. Neither of them contained a Cuckoo's egg, nor did a Linnet's and some Reed-Buntings' nests in the neighbourhood. I may also add that Mr. Witherby found a Reed-Warbler's nest with four eggs on the adjoining Reservoir on May 21st—even that being an early date for England. E. HARTERT.

BLACKBIRD FEIGNING INJURY.

ON May 9th, 1916, while I was walking along a road near Riding Mill, Northumberland, a hen Blackbird (*Turdus m. merula*) darted out at my feet as I approached a gorse bush. I then saw a nest with four eggs low down in the gorse bush. The Blackbird, however, did not fly away as is usual with this bird, but stopped a short distance from me and fluttered its wings. I thought at first that it might have been cramped from sitting on its eggs, but as I approached, it spread one of its wings and crawled away from me seemingly feigning injury. It continued this performance till about twenty yards from its nest and then flew suddenly away. As I have not before seen any similar performance on the part of a Blackbird, I think this may be worth recording.

T. C. HOBBS.

EARLY ARRIVAL OF SWIFTS.

SWIFTS (*Apus a. apus*) have been reported from many quarters as having arrived this year at earlier dates than usual. Mr. A. Astley informs us that he saw a pair on April 23rd at Lake Windermere, and Mr. H. E. Forrest tells us that one was seen at Churchstoke, Shropshire, on April 22nd. In southern England, Swifts were seen by many observers on April 22nd and 23rd, and we note two still earlier dates, viz., Exbridge, April 17th, and Christchurch, April 20th, reported in the *Field* (29.4.'16, p. 669).

SPOONBILLS IN DEVONSHIRE AND HAMPSHIRE.

A SPOONBILL (*Platalea l. leucorodia*) has been noticed on the Kingsbridge Estuary for the past month or more and is still (April 24th, 1916) there, consorting with the Herons and roosting with them each night in Halwell Wood. This

possibly may be the same bird as that observed by Mrs. C. Hodgkin on the estuary of the Teign, as recorded in the March issue (Vol. IX., p. 274). E. A. S. ELLIOT.

On May 5th, 1916, I was pleased to observe two Spoonbills (*Platalea l. leucorodia*) in a rushy pool near Beaulieu, Hampshire. They were very wary and difficult of approach. When I visited the spot the following day another had joined them, but as before, they took to wing when I was four hundred yards away. On the 12th I was more fortunate, and by carefully stalking managed to get within fifteen yards of a single bird which appeared to be a young one of last season, as the crest was inconspicuous. The method of feeding by moving the beak quickly in circles through the mud and water was especially interesting. E. M. IMRIE.

[In connexion with Miss Imrie's interesting note it may be mentioned that three Spoonbills appeared at Beaulieu on November 5th, 1906.—H.F.W.]

DIVING BY SURFACE-FEEDING DUCKS.

THE note on Wigeon diving by Mr. Miller Christy (Vol. IX., p. 301) tempts me to put on record some experiences on the point. During many years' practice of wildfowling afloat, I have never once seen Wigeon (or, for that matter, any of the surface-feeding ducks) dive of their own free will. Wigeon, indeed, seem less inclined than any of the others even to turn themselves vertically upwards, thus reaching down to submerged food beneath, as Mallard, Teal, Sheld-duck and others, also Brent Geese, habitually do. The utmost a Wigeon cares to attempt is, in a general way, to dip his head under, his body still remaining horizontally afloat. Of course captive Wigeon, such as those Mr. Christy mentions, might, and probably would, adopt habits foreign to their normal nature, owing to the physical handicap of being pinioned.

At the same time, Wigeon, when wounded, are smart and capable divers, as must be well known to every wildfowler: so also are Mallard, Teal, Sheld-Duck and other surface-feeders, including Brent Geese. But the Wigeon, I think, exceeds them all (save perhaps the Teal) in subaquatic smartness. I remember noticing a winged Wigeon-Drake disappear in a tidal channel down which the ebb was running strongly. Some minutes later, on reaching the marked spot in the gunning-punt, this Wigeon was detected lying flat on the bare sandy bottom, though without any apparent means of holding himself stationary. The depth of water was

about 18 inches, and I recovered the bird by seizing his neck while still lying motionless on the sand. He appeared then to be three-quarters drowned.

The incident recalls another experience. In March, 1913, when returning from Sudan, I spent a week at Cairo and was equally amazed and interested by the surprising assemblage of wildfowl that thronged the "Pelican pond" in the Zoological Gardens at Giza; unluckily I have mislaid the note made at the time, but my recollection is that they numbered several hundreds, and this on a small pool of perhaps two acres in extent. The great bulk of them were Shovelers, and I remember wondering why my friend, Mr. M. J. Nicoll, should be so extravagant in this one species! Soon, however, it dawned upon me that all these 400 or 500 ducks were truly wild birds and had settled down in these public gardens, amidst crowds of sightseers, purely of their own free will and for their own convenience, though I doubt whether one man in a thousand who passed by realised that fact. Remember that the pool is everywhere flanked by pathways, while its shores are studded with restaurants, tea-pavilions and, at intervals, a brass band! Besides the Shovelers, there were many Teal, a few Wigeon, and a single Pochard.

Now the point of my story is this: frequently while having lunch (sitting almost within arm's-length of these ducks), I noticed that a few of the Shovelers—always females—were constantly diving for food, bringing up some green stuff to the surface and there investigating and dissecting it. This is the only instance within my experience of a surface-feeding duck essaying to dive for food, and I am very familiar with the Shoveler, both in Spain during winter and on the Borders in spring and summer.

ABEL CHAPMAN.

RUDDY SHELD-DUCKS IN SOMERSET.

ON November 13th, 1915, during the spell of cold weather experienced at that time, two Ruddy Sheld-Ducks (*Casarca ferruginea*), a male and a female, were shot whilst fighting about 6 p.m. on Porlock Marshes, near the sea, west Somerset, by the Rev. J. A. Smart, of Porlock, and kindly presented by him to the Museum of the Somerset Archaeological and Natural History Society at Taunton Castle. Of course, in the case of birds of this class, which are often kept on ornamental waters, it is seldom possible to say definitely whether individual captures are genuine visitants or merely escapes

from confinement, but these birds showed no evidence of having been in captivity, and inquiry at the only place in the county where birds of this species were known to be kept, showed that the owner had not lost any. Their stomachs, I may say, were empty, so that no clue could be obtained from that source. There seem, therefore, reasonable grounds for supposing that these birds may have been genuine wild visitants to the county. J. WIGLESWORTH.

POCHARD BREEDING IN NORTH WALES.

IN reference to Mr. H. E. Forrest's note in the last number of *British Birds* (Vol. IX., p. 320), may I be allowed to draw his attention, and that of any other interested readers, to the fact that in my *Wild Life in Wales* (p. 41) I mentioned that a pair or two of both Pochards and Tufted Ducks bred on Bala Lake in 1906, and that on June 8th, 1905, I saw a female Pochard on the lake accompanied by her brood, then only a day or two old. GEORGE BOLAM.

HOODED MERGANSERS IN MERIONETH.

RECENTLY when on a visit to Birmingham I went through the natural history museum, and amongst Mr. Chase's loan collection of birds I noticed a case containing two Hooded Mergansers—a beautiful adult male and an immature bird. According to the label they were obtained in North Wales. I wrote to Mr. Chase for details and he replied as follows: "The Hooded Mergansers were presented to me in 1882 by the Rev. Walter Earle, of Yarlet Hall, near Stafford. He informed me by letter that they were shot near Barmouth by a former pupil of his, Sir William Clayton, by a clever right and left. These birds are mentioned by Dresser in the Supplement to his *Birds of Europe*, Vol. IX., page 296. In my opinion the birds are an adult male and immature male." Although recorded by Dresser, the above seem to have been overlooked by Howard Saunders and later writers on British birds. H. E. FORREST.

GREENSHANK AND BLACK TERN IN BERKSHIRE.

ON May 6th, 1916, I saw and heard a Greenshank (*Tringa nebularia*) in a flooded meadow near Aldermaston, Berks. This bird does not appear to have been recorded from Berkshire for many years. On passing a flooded meadow at the side of the Bath road, near Theale, on May 9th and 10th, I noticed a Black Tern (*Hydrochelidon n. nigra*) hawking over the water and picking up insects from the surface.

NORMAN H. JOY.

BRITISH BIRDS

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SOME BREEDING-HABITS OF THE SPARROW-HAWK.

(2) THE HEN AT THE NEST.

BY

J. H. OWEN.

THE hen Sparrow-Hawk is easy enough to study when once laying has begun, as she will never be far from the nest. Laying takes place on alternate days and apparently at any time during the day, for we have found birds laying and known eggs deposited at all times from 4 a.m. to mid-day. The period at which the hen begins to incubate is variable: she may start directly the first egg is laid, or when more are laid, or even not until all have been laid. If she is not incubating she will almost always be on the nest, *not covering the eggs but sitting beside them.*

As a rule, the hen does the whole of the incubation, unrelieved by the cock; cases are reported of the cock being shot from the nest, but these are rare, and it is not always stated whether the eggs had hatched or not. I have on occasion seen both birds at the nest during laying and incubation, but personally I have never known the cock help to incubate. Usually the hen is provided with food by the cock entirely during the laying, incubating and nestling periods; it is only rarely that she has to do any hunting until the young have left the nest.

Normally, a hen with six eggs keeps them in two rows of three, and if they are disturbed she puts them back into that arrangement with her bill as she covers them. Once, however, I saw a hen leave a nest of six eggs in rows of four and two. As often as not, five eggs are arranged in rows of three and two, and not symmetrically.

The behaviour of individual birds when flushed from the nest varies very much. Some go off silently and keep

silent, but do not go far away. Others go with a great swish of wings, but are otherwise quiet. Some rush from tree to tree of the wood, uttering loud alarm notes—"kew-kew-kew"—repeated very rapidly about ten times. When the young are hatched, this alarm note sometimes becomes "kyow-kyow-kyow" (a farmyard turkey note). One bird, and only one, shrieked "kill-kill-kill," and flew



Fig. 1. SPARROW-HAWK.

"As incubation advances the hen sheds down about the nest."

(*Photographed by A. P. Adams.*)

backwards and forwards through the nest-tree, often passing within a few inches of us and on rare occasions even touching us. Another bird flew very high backwards and forwards over the wood; she was silent and acted rather as the hen does in the spring evolutions. On another occasion the cock joined the hen, and both flew together up and down and above the wood, giving their alarm notes; it was especially interesting, as it was the only time I have known this happen, and the hen had at the time barely finished laying.

Like other birds, they vary much as to closeness of sitting, but nearly all sit especially close as the time for hatching comes on. I have on more than one occasion had my head level with the brim of the nest before the hen has left, and once touched the bird with my hand. This also is the case where the hen has been kept off the young rather a long time or during heavy rain, even when the brooding period is past. Until the brooding period is past, the hen will come on the nest in less than a quarter of an hour after being disturbed; often when I have watched from a hut she has been back at the nest within a minute of my companion leaving me. Her courage is really marvellous, for I have timed one to be on the nest in a little over an hour in face of a camera placed in the open a bare six feet from the nest. A hut is treated with great indifference after a very short time.

Ordinarily, when the laying commences, the nest is made only of various sizes of twigs, and the well of the nest is lined with the finest. Sometimes the part that is to bear the eggs is lined with bark, rotten wood, or leaves in addition, before an egg is deposited. If this is not the case, the hen will add a certain amount of such material to the nest during the laying and incubation periods. Her activity in this respect is greatly increased at the time hatching should commence. She also adds material to the nest, mostly in the form of twigs, during the nestling period. These are all broken off the nest-tree or trees in the immediate neighbourhood. They are sometimes brought because a young one seems uncomfortable, but the chief reason, in my opinion, is for sanitary purposes, to cover any pellets, dung, or bits of meat that have become wedged or sunk among the nest material. Some of the twigs brought are strong sticks, and these are put on the outside, but most of them are very fine and placed in the well. It is for this reason that a deep-cupped nest becomes nearly flat, and often inches higher, at the end of the nestling period.



Fig. 2. SPARROW-HAWK.

"I have more than once seen a hen take up a gizzard and try to split it while the young waited expectantly."

(Discovered by T. W. Owen.)

When the young hatch, the hen does not take the eggshells to a distance and drop them, as so many other birds do, but eats them while she broods, being evidently unwilling to leave the nest even for the short time



Fig. 3. SPARROW-HAWK.

"The hen almost invariably takes the food with the foot."

(*Photographed by J. H. Owen.*)

that would be necessary to carry the eggshells away. During the nestling period, until nearly the end, she pays great attention to the cleanness of the nest, and at first picks out the dung, the young being not strong enough to eject it clear of the nest as they do afterwards. She sometimes swallows the pellets of the very young, but as

the birds advance in age she picks the pellets up and, with a quick side jerk of the head, throws them clear of the nest. After most meals (after all, at first) she makes a more or less careful examination of the well of the nest, and to do it thoroughly she has to shift the young, which



Fig. 4. SPARROW-HAWK.

“She tears a morsel off and holds it to the youngster’s bill.”

(Photographed by J. H. Owen.)

she does much more gently than most birds—the warblers for example.

As incubation advances, the hen sheds down about the nest, until at hatching time it is really a beautiful sight to see her sitting in the middle of a well flecked nest (Fig. 1). This down is removed very soon after the young are hatched, and it is done in the following way. When the hen completes plucking a bird on the nest, she throws away such feathers as she does not swallow or feed to the young,

and some are caught on the nest. These she removes later, and with them bits of the down. She holds the prey between her feet and by the inside claw of each foot. To tear a bit off she takes a portion in her bill and twists and pulls at the same time, and thus gets the greatest possible power on the joint. The time taken over a meal varies very much, the limits being from one and a half minutes to about a quarter of an hour. Usually three minutes are enough. As with sitting, so with brooding and feeding, the hen takes up a position with her back to the wind, or nearly so, to shelter the young. Sometimes in a dry strong wind she feeds or sits facing it, or sideways to it, after trying to keep her back to it.

If a young one rejects a morsel because it is too big, or the morsel slips out of its bill before the young one can bolt it, the hen will offer it to another of the brood. If it is again rejected she may offer it to a third or bolt it herself. I have more than once seen a hen take up a gizzard thus rejected and try to split it, while the young waited expectantly, and on each occasion she had to swallow it herself in the end. (Fig. 2.)

Until the youngest is twelve to fourteen days old the hen does not leave the nest much, except to meet the cock or for some purpose that will not keep her away long. She comes and goes very noiselessly on these occasions. When she gets back to the nest with food she very often calls "kew-kew-kew" loudly, just after alighting. I thought for a long time that this was a signal to the cock, and it well may be, but it was not done always. If the cock brings food to the nest he leaves it and goes. The hen seldom does so, but takes the remains of the carcass with her if she leaves the nest while feeding. She may occasionally leave a bird at the nest when the young can feed themselves, and I have once seen her do so in the earlier period; that was a Sky-Lark brought by the cock during a terrible thunderstorm, towards the end of which the hen was put off the nest and left the Lark behind. If the cock

brings a bird to the nest, the hen almost invariably takes it with the foot (Fig. 3). Sometimes she leaves the nest and carries it away for a minute or two. Once I saw her pick the bird up and carry it away with her bill, but she returned with it in her foot. In the



Fig. 5. SPARROW-HAWK.

A pause in a meal.

(Photographed by J. H. Owen.)

early stages of the nestling period she tears a morsel off the prey and holds it to a youngster's bill (Fig. 4); it is grabbed and jerked down. Later she tears a bit off and lifts her head, and there is a simultaneous grab at it by all the young. She prefers to do the carving herself right up to the end of the nestling period, but

when the young become big enough they pull bits off the carcass while she holds it. Sometimes a young one seizes the prey while the hen's attention is distracted ; in such a case she usually recovers it immediately by firm but gentle means. She is a wonderful mother, and only once have I seen one really peevish with a young one : on that occasion the youngster tried to help himself and took his mother's middle toe by mistake ; the twist and pull action must have hurt her horribly, and she banged the offender on the side of the head, but she seemed most careful not to hurt but only to warn.

After she has fed the young and examined and cleaned the nest, she always cleans her feet, and particularly the claws that have held the prey. To do this she takes these toes in her bill and draws them roughly and violently through it once or twice. The extreme violence of this action often made me shudder and fear that she would rip a talon off.

If the cock is getting game faster than it is needed, the hen will not fetch it. On one occasion he brought three birds to the wood in just five minutes ; the hen fed the young with the first and part of the second, which she finished herself. When he called the third time she turned her head in his direction, gave one awesome shriek, and resumed her original position. After that it was more than an hour before I heard the cock again.

It is a very pretty sight to see the hen go to brood after a meal. She looks at the young first and then round the neighbourhood. Then she puffs all her breast feathers out to the widest extent and looks at the young and glances round about again. Sometimes she has a wonderful look of satisfaction as she gazes at the young (Fig. 6). Finally she bends forward a little and edges over them by degrees, pushing her way forward little by little. Once, and once only, I saw her dump herself down on the young and they very quickly tried to



Fig. 6. SPARROW-HAWK.

wriggle from under the weight (Fig. 7). The amount of time spent in brooding seems excessive and unnecessary. The young, when a week old, keep struggling from beneath the old bird, and when they are ten days old they do not care to be brooded at all and spend most of their time clear of the mother, unless the weather



Fig. 7. SPARROW-HAWK.

"Once, and only once, I saw her dump herself down on the young and they very quickly tried to wriggle from under her weight."

(*Photographed by J. H. Owen.*)

conditions are bad. She often goes to sleep on the nest and closes her eyes, but the very slightest noise or movement is sufficient to make her extremely alert again. When asleep the lids always cover the eyes. At the end of the brooding period the hen just sits beside the young on the nest, she seldom covers them in the daytime, but "mothers" one when it chooses to nestle under her. I have no notes as to what brooding she does in the night.

After the brooding is over she perches in a tree *upwind* from the nest; sometimes she selects a dead leafless branch full in the sun, sometimes one very much shaded: sometimes receiving all the wind to be got, sometimes equally carefully avoiding it. In the selected place she will stay, for hours if need be, until the cock calls her. Much of the time is spent in preening and cleaning. When she does her toilet she is always most particular about the wings and tail; the flight feathers are each drawn through the bill two or three times at least.

Very seldom did we see the hen attempt to capture anything; Adams once saw one take a Greenfinch close to the hut, and I think the same bird also took a Long-tailed Tit just below the hut; at any rate, she slipped off the nest and was back in a minute or two and had obviously fed.

When the young begin to leave the nest, the hen's movements are harder to follow and become, to a certain extent, a matter of conjecture. Watching from the hut breaks down because the noise made in climbing up makes the young shift to another tree. The cock then seems to attend to those that have gone while the hen watches over the rest. I have seen her stay on the same perch for more than three hours at a stretch. In that time I heard the cock take food to each of the young that had left the tree.

THE LATE MAJOR F. W. PROCTOR.

MANY of Major Proctor's ornithological friends were startled some months ago by the news that he was in a critical condition and that it had been found necessary to amputate one of his legs, but even then few could have anticipated that on June 13th he would have passed away. Almost to the last he retained his keen interest in oology and bird-life, and nothing gave him greater pleasure than the receipt of a letter full of bird news or a talk with a brother ornithologist.

Frederic William Proctor was the son of William Proctor, of Torquay. He was born in 1862, and from his earliest days was deeply interested in birds. On entering the Army he joined the 33rd (Duke of Wellington's) Regiment and spent seven years serving in India, where he made a collection of birds. Subsequently he was for a time attached to the 3rd Battalion of the Royal Welsh Fusiliers, and retired with the honorary rank of Major.

In 1891 he married Hope Lake, step-daughter of Mr. W. H. Paling, of Sydney, New South Wales, and had four children, three sons and one daughter, of whom the two elder sons, Lieut. E. Proctor, Royal Welsh Fusiliers, and Midshipman V. W. L. Proctor (H.M.S. *Ajax*), have already seen service for their country.

He joined the British Ornithologists' Union in 1893, and was also a frequent visitor to the British Ornithologists' Club, where from time to time he exhibited some of the more interesting specimens from the fine collection of eggs he was gradually amassing. In 1912 he decided to part with most of the eggs which he had acquired by purchase and to retain only those which he had himself collected. The sale took place at Stevens's Rooms on November 21st, 1912, and March 13th, 1913, and created much interest, some of the eggs of the rarer waders being offered for sale for the first time and realising large prices.

After this, Major Proctor devoted himself to the improvement of his own collection. He had already visited Hungary (1903), Madeira, Spain (1906) and Holland (1908), and in 1913 made a trip to the Gulf of Bothnia and the Quikjock district of Swedish Lapland, where few Englishmen had collected since Wheelwright's time. This was followed in 1914 by a second visit to Spain, in company with Mr. S. L. Whymper, on which occasion he was successful in taking eggs of many of the large Raptores of Central Spain, as well as those of the birds of the Guadalquivir valley. On the outbreak of war in 1914 he offered his services to the War Office and was at once accepted. For a year he acted as Recruiting Officer at Longton, Staffordshire, but wishing for a more active field of operation, he was appointed to the Signalling Depot of the Royal Engineers at Fenny Stratford, Bucks. Here he worked from June to October, 1915, when the illness from which he eventually died began to show itself. He was never happier than during this period, while he was able to give his personal service to his country. In spite of all that devoted attention and the best medical advice could do, he became gradually worse, and though amputation seemed to raise hopes of recovery for a time, he sank under it, and was laid to rest in the churchyard at Maidenhead on June 15th.

Major Proctor published little, but few keener observers or more enthusiastic collectors could be met with than he. Somewhat reserved in manner, he was a most interesting and delightful companion to a kindred spirit, and a true and loyal friend, whom we shall greatly miss.

F.C.R.J.

NOTES

MUD-DAUBED EGGS OF JACKDAW.

IN *British Birds*, Vol. VIII., p. 14, there is a note by me on a Jackdaw which was in the habit of daubing its eggs with mud. In 1915 I had to leave Oswestry before the bird had finished laying in the particular nest referred to. A friend visited the nest two or three days later and found that it had been robbed in the meantime. This year (1916) I visited the nest on April 23rd, and found it nearly complete and lined as usual with wool, hair and a little moss and grass. I revisited it on May 2nd and found that it contained four eggs so thickly daubed with mud that only very small portions of the shell were visible. The eggs were dry but the nest was very different from when I first saw it, for now the lining was thickly covered with mud which had caked and resembled the mud bottom of a Magpie's nest. I removed the eggs, which were incubated in slightly different stages, and replaced them by four clean fresh eggs from another nest. On May 3rd I revisited the nest and found the mud lining damp and the eggs slightly coated with mud. Previous to this year only the eggs had been daubed, but this time it would be difficult to say, of the bird's own eggs, whether the nest was mud-lined and the eggs got it from the lining, or whether in the process of daubing the eggs the lining of the nest became coated with mud. The latter is perhaps the right view. The clean eggs which I put into the nest were probably muddied accidentally from the lining: this may have been damped by the bird as she returned to the nest, as there had been rain in the morning and after I left the previous day.

The difference in the stages of incubation of the mud-daubed eggs led me to examine a set out of a nest which had only one egg on April 23rd and on May 3rd held six. These were all in different stages of incubation, from clearly defined young to practically fresh. Other complete sets gave more or less similar results, but some sets were all fresh. This shows that the Jackdaw has no fixed rule when incubation shall commence.

J. H. OWEN.

PIED FLYCATCHER IN HERTFORDSHIRE.

ON April 30th, 1916, Dr. A. H. Foster and I saw a male Pied Flycatcher (*Muscicapa h. hypoleuca*) near Knebworth,

Hertfordshire. It is an exceedingly rare species in Hertfordshire. The bird was in an oak wood and was busily engaged in catching insects.

W. PERCIVAL WESTELL.

EARLY LAYING OF REED-WARBLER AND CUCKOO.

WITH reference to the note on this subject (*supra*, p. 20) the Reed-Warbler in the Henley-on-Thames district would seem to have two distinct dates of arrival. The first nests are often found early in May, but the larger number are not seen until June. The bird is still exceedingly common in our reed-beds, though not nearly as numerous as thirty years ago. I am sorry I have not kept more notes of early nests, but I see on May 31st I found two hatching, the clutch in each case being four. If we allow twelve days for incubation, the first eggs would have been laid by May 16th.

A Cuckoo's egg was found in a Pied Wagtail's nest near Henley on May 6th, 1916.

HEATLEY NOBLE.

[For previous records of early laying of the Cuckoo see Vol. VI., pp. 18, 88, 90 and 122.—EDS.]

BLACKBIRD'S NEST MADE OF STRING.

IT may be worth recording that early in April, 1916, a pair of Blackbirds (*Turdus m. merula*) built in a wood-pile on a farm in Bedfordshire a nest constructed entirely of binder string. The nest was partially demolished by a great storm and the birds built another nest of the same material, about a foot away in the same wood-pile.

W. ROWAN.

BLUETHROAT OFF NORFOLK IN MAY.

A BLUETHROAT flew on board my ship at 4 p.m. on May 11th, 1916, while we were patrolling ten miles north-west of Cromer. As it came into the captain's cabin and stunned itself flying against the glass of the window, I picked it up and was able to examine it closely. The breast was a brilliant metallic blue, and I did not observe the red spot, but was not looking for it, as I did not then know the bird. The rest of the plumage, of which I wrote a description the same day, agrees accurately with that of *Luscinia svecica*, a specimen of which I saw in Booth's Museum, Brighton, when on leave a week later. Dr. Langton, of Brighton, also verified it for me. I gave the bird some crumbs and water: it remained about the decks half an hour or more and then flew away.

R. WINCKWORTH.

[The Bluethroat is seldom observed on the spring migration.—EDS.]

ROBINS BUILDING NESTS IN SPRUCES.

ON April 14th, 1916, I found near Oswestry, Shropshire, a nest of a Robin (*Erithacus r. melophilus*) placed, exactly like a Blackbird's or Thrush's nest, in a young spruce. The bulk of the nest attracted my notice and the fact that it was built outwardly of dead leaves. It seemed rather incompletely lined at the time, and as it had not progressed any



ROBIN ON ITS NEST IN A SPRUCE TREE.

(Photographed by J. H. Owen).

further on April 18th I thought it was deserted. On April 22nd I was taking a friend to see it and while passing through the wood discovered another Robin's nest in a similar situation and containing four highly-incubated eggs. This nest was much smaller than the other and also incompletely lined. I was rather surprised on reaching the first nest to find that it contained three fresh eggs. This number was afterwards increased to five. Later on some bird sucked them, while in the other nest the young hatched but were taken by vermin. Some of the measurements of the nests may interest other ornithologists, so I give a table of them. Both nests were

entirely new and constructed by the Robins in my opinion and the opinions of those to whom I showed the nests.

	1ST NEST.	2ND NEST.
Height of top of nest above ground ..	3 ft. 9 in.	3 ft. 3 in.
Diameter of brim from outer edges (widest and nar- rowest measure- ments)	15 in. × 11 in.	6 in. × 5 in.
Diameter of cup ..	2.75 in.	2.5 in.
Depth of cup ..	2 in.	2.25 in.
Depth of nest ..	7.5 in.	6.3 in.
Materials	Outside a thick mass of beech leaves ; then moss, leaves and grass com- bined : lined with fine grasses and a few very fine roots : just two or three hairs.	Materials as usual but very few leaves ; the outside was moss, one or two leaves and grass : the lining was of fine grass and very fine roots, hardly any hairs. This nest was nearly half-domed.

J. H. OWEN.

DIPPER IN HERTFORDSHIRE.

ON April 5th, 1916, I saw in a partially flooded field, near Hatfield, a Dipper, apparently of the British form *Cinclus c. britannicus*. I had a very clear view of the bird and was able to make a sketch of it. Even as a wanderer I believe the Dipper has rarely been observed in Hertfordshire.

W. ROWAN.

LITTLE OWL IN SHROPSHIRE.

FURTHER evidence of the spread of the Little Owl (*Athene n. noctua*) in the district (*cf.* Vol. VIII., p. 18) is afforded by the capture on May 6th, 1916, of one at Millichope Park, near Church Stretton. Possibly it was the same bird that was heard calling repeatedly in the grounds of the Longmynd Hotel, Church Stretton, in November and December 1915. It was caught in a "tunnel" trap : a long square wooden tube with an ordinary iron rat-trap in the middle. It is rarely that any bird gets taken in this form of trap.

H. E. FORREST.

MARSH-HARRIER IN LEICESTERSHIRE.

ON June 17th, 1916, I received for identification from Mr. W. W. Cobb, of Atherstone, a bird obtained two days

previously at Upton, Leicestershire, four miles from Atherstone, Warwickshire. It proved to be an adult male Marsh-Harrier (*Circus aeruginosus*), and is the only example from any of the Midland counties that I have seen or heard of in recent years. The date of occurrence—mid June—is worthy of note.

H. E. FORREST.

GLOSSY IBIS IN OXFORDSHIRE.

A FEMALE Glossy Ibis (*Plegadis f. falcinellus*) was obtained on May 11th, 1916, on the Oxfordshire side of the Thames and within two miles of Reading. It had been observed in the locality for about a fortnight previous to the date of its capture. Examination of the bird gives no suggestion of its being an escape from captivity, and the light feathers of the neck make it appear probable that it is in its first year plumage. The specimen is being set up and will be given to the Reading Museum.

W. NORMAN MAY.

ON THE STATUS OF THE COMMON CURLEW AND THE BLACK GROUSE IN WILTSHIRE.

I. THE COMMON CURLEW.

NEARLY every recent book on British birds mentions Wiltshire as one of the counties in which the Common Curlew (*Numenius arquata*) breeds, but I am of opinion that this is one of those errors which get copied from one work to another. I know no part of the county which is really suited to the requirements of the bird, and very much doubt if it ever breeds here, and I believe that all records are based on Stone-Curlews (*Burhinus oedicnemus*) which are fairly common. This view is shared by Dr. Penrose.

The mistake probably arose as follows. In 1870 Mr. (now Sir Everard) im Thurn gave an instance (*Birds of Marlborough*) of a nest on the Aldbourne Downs, but this record was at once discredited by his reviewer in the *Zoologist* (1870, p. 2178). In 1876 Mr. im Thurn, in his *Appendix to the Birds of Marlborough* (*Report of Marlb. Coll. Nat. Hist. Soc.*), gave a little additional, but still quite insufficient evidence with regard to this nest, which was again discredited (*Zoologist*, 1877, p. 637). The Rev. A. P. Morres thereupon wrote very positively (*Zoologist* 1877, p. 106) that the bird bred regularly within seven miles of Salisbury. Probably relying on this record, Howard Saunders (4th edition *Yarrell*, Vol. III., p. 501) wrote: "a few pairs may be scattered through Wilts in the breeding-season."

The Rev. A. C. Smith (*Birds of Wiltshire*, p. 412) said that various people "assure me that they used to breed regularly in certain districts on the Downs. Possibly they may do so still." He then quotes the three writers mentioned above, and adds, "I have no positive proof to bring forward, but see no reason to doubt it."

In the meantime (1883) Morres, in spite of his previous assertion, wrote (*Wilts. Arch. and Nat. Hist. Mag.*, Vol. XXI., p. 223): "I had often been told that these birds bred on the Downs, and was promised some eggs, but when they were sent, they turned out to be Stone-Curlews, *as I had all along suspected would be the case*" (my italics).

Now Morres's original statement appeared in the *Zoologist*, and was therefore widely read, but as his recantation was only published in a local journal, it was almost unnoticed—though it was just quoted by Mr. Harting in the course of his review of Smith's book (*Zoologist* 1888, p. 118). At all events, this recantation must have escaped the notice of Howard Saunders, for he repeated his statement in the *Manual*, 2nd edition (p. 127) and has been copied by all subsequent writers. Mr. Eagle-Clarke has kindly looked up Saunders's notes for me and finds that the passage stands just as it is in the *Manual*, and therefore I think we may conclude that he got his information from the sources mentioned. Needless to say, I shall be very glad if I am shown to be wrong and the Curlew is proved to nest in the county.

II. THE BLACK GROUSE.

The Black Grouse (*Lyrurus t. britannicus*) is another bird which is popularly supposed to be a resident in Wiltshire. This error can also be traced to Howard Saunders, but I have been unable to discover on what evidence his statement was based.

In 1884 Howard Saunders wrote (4th edition *Yarrell*, III., p. 62): "They are found, although sparingly, in Wiltshire." Writing in 1887 the Rev. A. C. Smith (*Birds of Wiltshire*, p. 327) quoted this statement and added: "I am afraid, however, that we can only lay claim to the visit of a very rare and accidental straggler, seen from time to time after an interval of many years." He recorded a male and female, obtained in 1818 and 1819 respectively, which were supposed at the time to be the last native birds of this species in the county, and remarked that all later records (of which he only gave three—in 1866 and 1880) had straggled over from the New Forest.

In spite of this flat contradiction by the Rev. A. C. Smith, Howard Saunders wrote (*Manual*, 1st edition, p. 479): "still maintain themselves in Wiltshire," and repeated this statement in the second edition of the *Manual* (p. 493). Subsequent writers have followed Saunders; thus the *Hand-List* (p. 215) says "some Wilts," while the new *B.O.U. List* (p. 317) assures us that "in Wiltshire it has become very scarce."

It seems impossible to think that Howard Saunders would have made such definite statements unless he had some reliable information; but where this came from I cannot tell, and Mr. Eagle Clarke can give me no help from Saunders's notes. At all events, absolutely the last Wiltshire specimen of the bird was a Greyhen which was killed against wire near Warminster on April 8th, 1906, as recorded in the *Field* of the following week.

G. BATHURST HONY.

[Mr. J. E. Harting in the 2nd Edition of his *Handbook of British Birds* (p. 133, 1901) gives the following list of Wiltshire localities for this species:—"Winterslow Woods and Ellesbourne formerly; Redholm, Vale of Pewsey and Compton Bassett; occasional stragglers from Hants and Somerset." As Mr. Harting in the 1st Edition of the *Handbook* (p. 38, 1872) does not mention Wiltshire, the above statement is probably founded on notes contributed to the *Field* in the interim. Possibly this was the source of Howard Saunders's information.—F. C. R. JOURDAIN.]

LAND-RAILS IN SOMERSET.

IN connexion with the recent enquiry into the status of the Land-Rail (*Crex crex*) in the British Isles (Vol. VIII., pp. 83-92), it may be worth recording that we have had more Corn-Crakes this spring (1916) in this district than we have had for many years. For a fortnight, or more, two or three birds were calling incessantly in the meadows round my house, in the parish of Weare, and I heard others in the neighbourhood. I am afraid most of these birds have passed on, as I have only heard one of them lately.

H. W. MAPLETON.

BRITISH TREE-CREEPER IN LEWIS, OUTER HEBRIDES.—Mr. W. E. Clarke records (*Scot. Nat.*, 1916, p. 76) that an example of *Certhia f. brittanica* was accidentally killed in a stack of hay at Galson, Lewis, on October 13th, 1915, during a terrific gale, by which it had no doubt been blown to the island.

LATE STAY OF GREAT GREY SHRIKE IN ESSEX.—Mr. W. Howlett states (*Field* 3.6.16, p. 881) that he saw a *Lanius excubitor* at Chingford, Essex, on May 24th, 1916—a very late date.

LESSER WHITETHROAT IN WEST INVERNESS-SHIRE.—Mr. W. E. Clarke and Mr. Knight Horsfield watched a male *Sylvia curruca* on June 13th, 1915, near Loch Trieg. The bird was singing, but no female was seen (*Scot. Nat.*, 1916, p. 78).

EARLY ARRIVAL OF SWIFTS.—Mr. J. Steele Elliott writes that one was observed at Bewdley, Shropshire, on April 21st, 1916, and Mr. W. E. Glegg tells us that he saw four on the same date at Staines Reservoir, Middlesex. We are informed that Swifts were also observed on the north Norfolk coast, near Cley, on April 20th. (*Vide supra*, p. 21.)

HOOPOE IN YORKSHIRE.—Mr. W. H. Parkin reported at a meeting of the Yorkshire Naturalists' Union that an example of *Upupa e. epops* had been obtained near Thirsk on October 15th, 1915 (*Nat.* 1916, p. 141).

DARK-BREASTED BARN-OWL IN SHETLAND.—Mr. W. E. Clarke records (*Scot. Nat.*, 1916, p. 76) that a specimen of *Tyto a. guttata* was obtained on Unst on November 5th, 1915. This appears to be the first authentic record of the occurrence of this race in Scotland.

BARTRAM'S SANDPIPER IN CO. LEITRIM.—Mr. J. M. McWilliam records (*Zool.*, 1916, p. 194) that an example of *Bartramia longicauda* was shot by his cousin, the late J. S. Ellis, at Bunduff, co. Leitrim. Mr. McWilliam states that Mr. Ellis showed him the field, quite close to the sea, in which he shot the bird; he was quite certain of the month being November, but the exact year was not quite certain, though it was probably 1901. Mr. McWilliam proceeds: "In the case of so rare a bird it is unfortunate that it should not have been recognised and recorded at once. However, I not only had from Mr. Ellis himself a description of the circumstances in which it was taken, but afterwards it passed direct from his possession into mine." The specimen has been examined by Mr. W. E. Clarke. Bartram's Sandpiper has been recorded about ten times in England and twice previously in Ireland.

BLACK-TAILED GODWIT IN HADDINGTON.—Mr. W. Evans records (*Scot. Nat.* 1916, p. 70) that he saw a single *Limosa limosa* in Aberlady Bay on August 7th, 1915.

IVORY-GULLS IN SCOTLAND.—Mr. W. Berry records (*Scot. Nat.*, 1916, p. 95) that an adult male *Pagophila eburnea* was obtained on Beaully Firth (Inverness-shire) on February 5th, 1916, and another seen on the 7th, while Mr. L. Barnard states (*l.c.*) that he obtained an adult male also on February 5th at Mallaig (south-west Inverness-shire).

REVIEW.

British Birds. Written and illustrated by A. Thorburn, F.Z.S. With eighty plates in colour. $13 \times 10\frac{1}{2}$ inches. 4 Vols. £6 6s. net. (Longmans.) Vol. III. 1916.

THIS volume of Mr. Thorburn's beautiful work contains the Herons, Geese, Ducks, Pigeons and Game-birds. A good deal of crowding, detracting considerably from the beauty of the plates, has unfortunately been necessary to get in the requisite number of species, as in most cases both males and females had to be depicted, and even so young plumages and the eclipse plumages of the ducks have had to be omitted, but this is in accordance with the plan of the work, as only the fullest mature plumages have been represented throughout. We notice several plates in this volume in which the reds appear to us to be unnaturally brilliant, otherwise the colouring seems quite successful, but we might mention that the distal portion of the bill of the Little Crake is a bright grass green in nature, while the red at the base is more restricted than in Mr. Thorburn's drawing, and the orbital ring should be vermilion like the iris.—H.F.W.

LETTER.

SUPPOSED RUFOUS WARBLER IN HERTFORDSHIRE.

To the Editors of BRITISH BIRDS.

SIRS,—On February 11th, 1915, I flushed a strange bird by the river Ought at West Mill, near Hitchin. Its rufous colour, spread-eagled tail, and prominent white edges to same, puzzled me. The species remained in doubt until the publication of Mr. Thorburn's first volume of *British Birds*. On looking casually at his coloured plates, my eye suddenly fell upon his remarkable illustration of this species, and through the kindness of Dr. Hartert I have also before me two specimens of *Agrobates galactotes galactotes* from Algeria. I have no hesitation in pronouncing the bird I saw as belonging to this species, as I watched it for several minutes and as it flew and alighted I had a splendid view of it through my glass, and was particularly struck with the features above recorded. W. PERCIVAL WESTELL.

BRITISH BIRDS

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SOME BREEDING-HABITS OF THE
SPARROW-HAWK.

(3) THE COCK.

BY

J. H. OWEN.

THE cock Sparrow-Hawk is a queer mixture of pluck and nerves. His boldness and dare-devilry in attack are amazing ; his show of nerves in approaching the nest if it is under human observation (particularly from a hiding tent) equally amazing.

My own observations have never given me grounds for believing that he takes a share in incubation, although I have, on rare occasions, seen him at the nest *with the hen* both during the laying and incubation periods. As a rule, he hunts for the hen during the incubation-period, and calls her to fetch the game, which is never eaten at the nest. They usually meet at one of three or more dead branches some little distance from the nest. The prey is devoured there. On rare occasions the hen hunts, at any rate partly, for herself during incubation ; on such occasions she is liable to be a great nuisance to a pheasant-rearing ground conveniently near the nest.

After the young are hatched, the cock almost invariably goes out of the nest wood to get food. Only twice have we known him for certain to take a victim in the wood itself. He goes out upwind nearly always, but sometimes varies this by going out downwind and then circling round almost immediately. He therefore always hunts upwind or partly so. His usual plan is to go up a fence at a great pace and continually slip over from one side to the other. Any hapless small bird that is perched on an outstanding twig is snatched up and carried away. A Sky-lark dusting on a road or lane is also a frequent victim. Sparrows assembled in the rickyard or along a wheatfield hedge often provide meals. The victim, when caught for the young hawks, is not always killed at once ; we have heard and seen a Greenfinch shrieking

for some minutes after being captured, and it was put to death slowly and cruelly. Of course the grip of the hawk often kills a small bird very quickly, but if this is not so he does not seem to know how to kill. It seems quite a matter of chance what part of the victim will be eaten first; sometimes the head is torn off, sometimes the back is the starting-point, and not infrequently the entrails are devoured first. On a few occasions the cock has left a whole bird at the nest and I have been lucky enough to examine the carcasses. Nearly always I have found a small dint in the base of the back of the skull, but this may always be accidental. Larger game, such as Black-birds and Starlings, must suffer terrible agony before life is extinct. The hawk bears such down to the ground, and depresses the wings and tail against the ground and thus to a large extent prevents the victim struggling. It makes horrid wounds in the back of the captive and also in the head and neck, even at times blinding it.

Since the cock bird works upwind, one would expect him to come back downwind to the nest wood, but this is not altogether the case. Our united observations show that the favourite approach is practically across the wind. On nearing the edge of the wood he turns again slightly upwind and alights on a tree, so that the nest is dead downwind. To get to the wood he seems to plane nearly the whole way; he holds the victim in one foot, which hangs at full length or nearly so; his wings are extended and horizontal; there is no visible movement that I could ever see, but perhaps his wings move in slight and rapid movements invisible, even at a short distance, to the naked eye. He keeps a horizontal course the whole way, and at a height which will carry him comfortably clear of all tree-tops. At a distance he may easily be mistaken, when first seen, for a Wood-Pigeon performing its planing flights, except that the hawk does not vary his altitude or pace.

Having arrived at the wood, he usually perches at some distance from the nest and gives a low "kew-kew-kew."

After the young have all been hatched a few days, the hen is usually off to him like a flash when she hears this note, but should she not go to him, he comes nearer and changes his call to "key-oo, key-oo, kew-kew-kew," the "key-oo" being very plaintive and the "kew" rather shriller than before. If there is still no answer, he will come nearer and at intervals use the same cry, which becomes more and more plaintive and wailing. If the

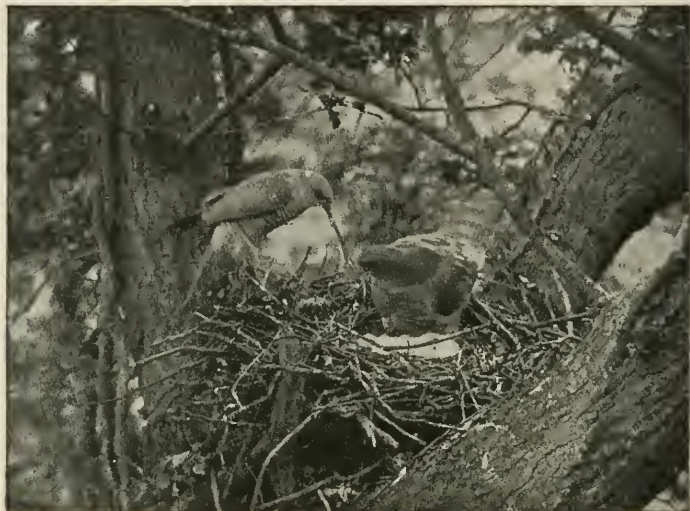


Fig. 1. SPARROW-HAWK.

"The cock is seldom still and the hen moves to take the food as he comes."

(Photographed by J. H. Owen.)

hen still does not go to him or take any notice, he seems to make up his mind to come to the nest, but first he gets into the nearest tree to the nest upwind and makes a last appeal with much of the plaint gone from his note. If there is no answer, you soon hear a gentle swish of wings, a soft and rather pleasant "ki-ki-ki," and he arrives at the nest with a bird. His stay varies from a small fraction of a second to five seconds, and he is seldom still, and the hen moves to take the food as he comes (Fig. 1). As a rule he just drops the bird and

goes. Once I saw him come in on one side of the nest and the hen seemed to notify him somehow that he was not putting the food in the right spot. He moved on, turned to the right, flew round the hut and came in on the other side of the nest, dropped the bird and was gone (Fig. 2).

When the hatching period approaches, the hen shows



Fig. 2. SPARROW-HAWK.

He brought the food to the wrong spot.

(*Photographed by J. H. Owen.*)

less and less inclination to leave the nest and I believe the cock dresses the birds for her to a large extent. She must almost starve herself during the actual hatching period. This year (1916) I watched a nest during June and started watching a full week before the eggs hatched. The wind during the whole of this period was nearly north. The cock brought all his game to a felled tree upwind and dressed it there. If the hen would not come for the food at his calls he would eat what he needed and go hunting again. On the hatching day (all the eggs in

this nest hatched in the course of one day) I saw the remains of four young Starlings, two Greenfinches and a Lark. I put him off as I was going to the hut. He was then eating a young Starling. When I disturbed him he gave chase to a House-Sparrow, and the Sparrow, although I think the hawk was playing, did not like it, but shrieked in terror as it dived into, round and through the bushes. I was in the hut several hours and he turned up and called the hen at intervals of almost exactly an hour, but she did not leave the nest once. Later on, the wind keeping much in the same quarter, the cock used the tree to dress food for the young, and I often saw pellets lying with the remains: one of these contained parts of an egg of a Greenfinch, which would indicate that he swallowed the egg, inside the Greenfinch, just as he would a gizzard. Often, too, there were fragments of intestine on the tree and the feathers of the victim covered the ground alongside the trunk. After Starlings, Blackbirds, Thrushes, Greenfinches and Chaffinches were mostly in evidence. When the time came for the hen to fetch from him he always awaited her at this feeding tree. She dropped down from the edge of the nest and skimmed the ground to meet him, but came back level with the nest, having acquired sufficient altitude almost on leaving the feeding tree.

For the first few days after hatching has commenced the cock seems to bring the food to the nest fairly regularly (Fig. 3). Then the hen begins to fetch it from him and after this I do not think she likes him to come to the nest except when she is brooding in very heavy rain. We noticed that sometimes she received the food from the cock quite near the nest when both were on the wing; at other times she took it from him on a branch, but most often she went out of sight to receive it, and we judged that as a rule the transference took place when both birds were perched on a branch. I have watched the transference of food in the air from a few feet away. The cock remained practically motionless in the air;



Fig. 3. SPARROW-HAWK.

“For the first few days after hatching has commenced the cock brings food to the nest fairly regularly.”

(Photographed by J. H. Owen.)

his wings were fully expanded and almost vertically ; he kept his position by working just the tips rapidly. The tail was slightly fanned and much depressed, thus showing a considerable amount of white at the base. He held the victim in the right foot only, and his leg was stretched out to its full length downwards. The other leg was not at full stretch but bent slightly at the ankle. The hen dived beneath him and passed on with the food. What I did not actually see was whether she took it from his foot or he dropped it and she caught it as she passed. They were so close together that I am inclined to think she took it direct from his foot.

The amount of plucking done by the cock varied very much. At the beginning he usually brought birds fully plucked, almost fully skinned, drawn and beheaded. This might be varied by a bird not nearly so fully dressed. Later, after all the young were a few days old, it was impossible to foretell how much prepared the corpses would be. Sometimes they were absolutely untouched, and at other times partly or fully dressed and occasionally even partly eaten. That he never, under any circumstances, feeds the young I am absolutely certain. If the hen is killed he will continue to bring food to the nest until the young are dead or can fly. In such cases the young usually die, as they cannot feed themselves until they are quite twenty-one days old. Two cases were brought to my notice last summer. One nest we were observing, and the young were upwards of thirteen days old when the hen was killed. When we examined the nest a day or two later, not knowing the hen was dead, we found all the young dead and a pile of six dressed finches and buntings on the edge of the nest. A keeper, on whose word I can absolutely rely, told me that in 1915 he shot a hen in the morning and the cock in the evening. He then got up to the nest which contained four young in the down. On the edge was a pile of five small birds, Chaffinches or Linnets.

At the first nest we watched in 1915 the food at first was nearly always young Starlings. The foliage of the oaks had, in some trees, been entirely removed by the caterpillars of *Tortrix viridana*. Rooks, Starlings (in thousands), Jays, Magpies, tits and crowds of warblers made incessant war on them. The Starlings came in for a bad time from the hawks as they occasionally alighted in the nest tree, which was then as bare as any tree in the wood. This the hawks could not stand, and they soon made the wood too hot for the Starlings, and they left it almost to a bird. After this the cock brought a very mixed diet for some days—Blackbirds, tits, warblers, finches of various kinds and an occasional Lark. At the end, Sparrows were brought most frequently, as two great wheat-stacks near the wood had been threshed and a large flock of Sparrows collected on the spot daily; also the spot was nearly upwind from the nest. In all the time we only saw one game-bird brought—a French Partridge a few days old on July 4th. The keeper missed some young chickens one afternoon, and saw the cock fly by his house to the wood twice. I was in the hut the whole of that afternoon, and able to certify that no chickens were brought. I was also able to tell him what the cock had brought each time he saw it pass. The next day he killed an enormous rat and a poaching cat near his pens and felt more comfortable.

We unfortunately made the hen very suspicious at the first nest, and she refused to come and break up the carcasses for the young when they were twenty-three days old and upwards. The cock therefore had to bring the food to the nest, and he was very nervous about it. He had a long argument with the hen before each visit and the young recognised when it was settled that he should come, and expected him. They began to give the “food squeal” long before he reached the nest tree. On these occasions he came very noiselessly. There was no note once it was settled that he was to come and no swish of wings as he passed the hut; he simply came in ghostly

silence, dropped the bird almost without touching the nest and went. Sometimes he was in such a hurry that he did not put the bird far enough on the nest, and it rolled off again before one of the nestlings could grab it. I picked up two of these and they proved to be a cock Chaffinch in full moult and a young House-Sparrow. The worst of the argument was that we could not distinguish which bird gave a particular note. One note—"pay-ee, pay-ee,



Fig. 4. SPARROW-HAWK.

"After the young have left the nest, the cock brings food to it for some time."
(The white spot in the middle of the nest is an intertile egg).

(Photographed by J. H. Owen.)

pay-ee"—we thought was made by the cock as a final protest; we had also heard this note by the same cock early in the nestling period. The rest of the notes followed one another so quickly that we never got them down to our satisfaction.

There was one thing in the first wood that was peculiarly interesting. Among the birds of the wood was a Tawny Owl, and he usually seemed to be on the windy side of the wood. From him we always got the first intimation that the cock hawk had entered the wood.

Perhaps the hawk gave the low "kew" note and for some reason we did not hear it; at any rate it would be uttered quite close to the Owl and he answered it, and was always hooting just before we heard any note from the hawk. Thus we got two indications of the direction of the wind: the notes of the Tawny Owl and the hawk. On some days at the end of June and early in July the wind changed frequently, but these birds always told us of the change the next time the hawk came in.

After the young have left the nest, it is used as a dining table for some time up to three weeks. The cock brings food to it (Fig. 4) and the hen no longer breaks it up, but each young one has a carcass in turn. Even if no youngster is in the nest, they answer the cock's calls from their various perches, and he puts the food in the nest and the quickest and most hungry gets it. The hen, for the first few days after the young have left the nest, does not seem to do much hunting, but to take a share of the food provided by the cock. As often as not she eats this in the nest, like a young bird. If she is disturbed, she takes what she is eating with her, a thing which the young, at that stage, cannot do.

It must be borne in mind that observations on the cock, made from a hut, are none too trustworthy. My notes on all three cocks I have watched from huts vary very considerably, according to the temperament of the bird, and make it impossible to generalize. I only give these notes as applying to birds I have watched myself.

(To be continued.)

RECOVERY OF MARKED BIRDS.

THE following have kindly sent in subscriptions towards the expenses of the Marking Scheme since the last acknowledgment was made: Messrs. C. F. Archibald, R. Oswald Blyth, Capt. A. W. Boyd, Messrs. P. A. Buxton, P. A. Chubb, W. Davies, E. de Hamel, K. Fisher, T. C. Hobbs, F. W. Holder, The London Natural History Society, Major W. F. Mackenzie, Mr. A. Mayall, Dr. H. J. Moon, Mr. J. H. Owen, Mrs. Patteson, Messrs. O. G. Pike, H. L. Popham, Captain M. Portal, Messrs. W. C. Tait, and A. O. Whitehead.

I should like here to draw attention to the large number of valuable records for the knowledge of which we are indebted to the Editor of the *Seculo*, of Lisbon. The Editor of this Journal has very kindly taken great interest in the scheme for some years and has been at great pains to obtain full details with regard to ringed birds found in Portugal. Without his kind aid, for which we are most grateful, a number of these records, which have been both numerous and valuable, would have been lost altogether or would have been incomplete and therefore of little use.

It has been suggested that some notes comprising hints on methods of ringing and securing birds for the purpose would be of use, especially to those who have not had much experience. I should therefore be glad if ringers would send me an account, with a view to publication, of any special methods they adopt which they think may not be generally known.—H.F.W.

STARLING (*Sturnus v. vulgaris*).—46849, adult, marked by Mr. T. C. Hobbs at Gosforth, Northumberland, on Dec. 8th, 1913. Reported by Mr. B. Baker at Newburn, Northumberland, on Feb. 9th, 1916.

46299, 41506, immature, marked by Mr. W. E. Suggitt at Cleethorpes, Lincs., in July and August, 1913. Reported by Mr. H. F. Riggall at Limber, Habrough, Lincs., and by Mr. P. A. Shea, at Waltham, Grimsby, in March, 1916.

48723, nestling, marked by Miss C. M. Acland at Banstead, Surrey, on May 5th, 1914. Reported by Mr. N. C. Colman on Epsom Downs, Surrey, on Feb. 1st, 1916.

44327, nestling, marked by Dr. N. F. Ticehurst at Tenterden, Kent, on May 10th, 1914. Reported by Mr. C. Varty at the same place on April 25th, 1916.

46976, adult, marked by Mr. C. F. Archibald at West

Park, Leeds, Yorks., on Mar. 20th, 1915. Recovered at the same place and again released on Feb. 25th, 1916.

81886, nestling, marked by Mr. J. R. B. Masefield near Cheadle, Staffs., on May 28th, 1915. Reported by Mr. G. T. Davies at Garthmyl, between Newtown and Welshpool, Montgomeryshire, on July 18th, 1915.

CHAFFINCH (*Fringilla c. cœlebs*).—R251, and A.D.56, adults, marked by Mr. P. A. Buxton at Fairhill, Tonbridge, Kent, on Jan. 13th, 1914, and Mar. 26th, 1915. Caught again at the same place in Feb., 1916.

BH90, adult, marked by Mr. J. R. B. Masefield at Cheadle, Staffs., on July 12th, 1915. Recovered at the same place and again released on May 3rd, 1916.

PIED WAGTAIL (*Motacilla a. lugubris*).—AX85, nestling, marked by Mr. J. R. B. Masefield at Cheadle, Staffs., on June 18th, 1915. Reported by Mr. W. C. Tait at Vieira de Leiria, Portugal, in Jan., 1916.

MISTLE-THRUSH (*Turdus v. viscivorus*).—43597, nestling, marked by Mr. C. Hyslop (Gamekeeper to Mr. H. S. Gladstone) at Thornhill, Dumfriesshire, on May 19th, 1913. Reported by Miss A. H. Norris at Nenagh, co. Tipperary, on Jan. 27th, 1916.

BRITISH SONG-THRUSH (*Turdus ph. clarkei*).—48962, nestling, marked by Dr. H. J. Moon at Blackpool, Lancs., on June 19th, 1914. Reported by Mr. M. Hayes at Caher, Feakle, co. Clare, on Jan. 20th, 1916.

46972, adult, marked by Mr. C. F. Archibald at West Park, Leeds, on Feb. 28th, 1915. Recovered at the same place and again released on Nov. 27th, 1915.

BLACKBIRD (*Turdus m. merula*).—S9, nestling, marked by Mr. J. Bartholomew, at Torrance, near Glasgow, Stirlingshire, on July 4th, 1913. Recovered at the same place on Feb. 4th, 1916.

43565, nestling, marked by Mr. P. A. Buxton at Fairhill, Tonbridge, Kent, on April 15th, 1914. Reported by Mr. A. Ayling at the same place on April 22nd, 1916.

WHEATEAR (*Enanthe æ. ænanthe*).—X363, nestling, marked by Mr. F. W. Sherwood at St. Annes-on-Sea, Lancs., on June 17th, 1915. Reported by Mr. W. K. Moss at the same place on May 25th, 1916.

BRITISH REDBREAST (*Erithacus r. melophilus*).—AA31, adult, marked by Mr. S. K. Barnes at Orpington, Kent, on Aug. 1st, 1914. Recovered at the same place on Jan. 16th, 1916.

W616, nestling, marked by Mr. F. E. Blagg at Petersfield,

Hants., on May 17th, 1914. Recovered at the same place on Mar. 4th, 1916.

U61, X826, X829, adults, marked by Mr. C. F. Archibald at West Park, Leeds, on Jan. 25th, 1914, Jan. 17th and Feb. 22nd, 1915. Recovered at the same place and again released on Nov. 28th, 1915, Feb. 25th and 26th, 1916.

R244, adult, marked by Mr. P. A. Buxton at Fairhill, Tonbridge, Kent, on Jan. 18th, 1914. Recovered at the same place on Feb. 9th, 1916.

AD59, adult, marked originally as N639 by Mr. P. A. Buxton at Fairhill, Tonbridge, on Dec. 30th, 1913. Recovered at the same place on Mar. 28th and Dec. 24th, 1915, and Jan. 8th, 1916.

U253, adult, marked as AD59 on Mar. 18th, 1915. Recovered at the same place on Dec. 25th, 1915, and Jan. 4th, 1916.

HEDGE-SPARROW (*Prunella m. occidentalis*).—T464, adult, marked by Mr. T. C. Hobbs at Gosforth, Northumberland, on Jan. 11th, 1914. Recovered at the same place on Jan. 30th, 1916.

0655, nestling, marked by Mr. W. Davies near Colwyn Bay, north Wales, on June 25th, 1914. Reported by Mr. L. Kay at the same place on Feb. 2nd, 1916.

X827, adult, marked by Mr. C. F. Archibald at West Park, Leeds, on Feb. 13th, 1915. Recovered at the same place on Nov. 30th, 1915.

SWALLOW (*Chelidon r. rustica*).—S843, nestling, marked by Mr. W. T. Blackwood at Broughton, Peeblesshire, on July 4th, 1914. Reported by Mr. A. C. Gairns at the same place on May 5th, 1916.

AS11, nestling, marked by Mr. F. W. Sherwood at Ingleton, Yorks., on June 20th, 1915. Reported by Mr. M. Ramwell at the same place on May 29th, 1916.

BM50, nestling, marked by Mr. F. E. Blagg at Petersfield, Hants, on Sept. 4th, 1915. Reported by Mr. S. Elliott at Henfield, Sussex, on May 30th, 1916.

MALLARD (*Anas p. platyrhynchos*).—31722, 31733, 36683, 34821, 34829, five adults, marked by Mr. M. Portal at Leswalt, Stranraer, Wigtownshire, on Dec. 5th, 1913, Feb. 28th, 1914, Feb. 17th and 27th, 1915. Recovered at the same place on Dec. 7th, 1915, Jan. 28th and Feb. 22nd and 26th, 1916.

CORMORANT (*Phalacrocorax c. carbo*).—100676, nestling, marked by Miss Pease at Farne Islands, Northumberland, on

Aug. 2nd, 1913. Reported by Mr. R. H. Dods at the mouth of the Tweed, Berwickshire, in April, 1916.

100638, marked as 100676. Reported by Mr. Ashe at Goswick, Northumberland, on May 2nd, 1916.

50427, nestling, marked by Mr. H. W. Robinson at Inisvoul, Scilly Isles, on May 14th, 1914. Reported by

Mr. H. James near Saltash, Cornwall, on Feb. 1st, 1916.

50391, nestling, marked by the late R. M. Barrington at Saltee Islands, co. Wexford, on June 10th, 1913. Reported by Mr. W. McNicol on the river Foyle near Londonderry, in Jan., 1916.

LAPWING (*Vanellus vanellus*).—45201, nestling, marked by Mr. H. T. Malcomson at Roaninish Island, co. Donegal, on June 13th, 1913. Reported by the Rev. James Williams at Dungloe, co. Donegal, at the end of Feb., 1916. 86062, nestling, marked by Miss S. Mounsey Heysham at Rockcliffe Marsh, Cumberland, on June 12th, 1915. Reported by Mr. R. Cunningham at Clogheen, Cahir, co. Tipperary, in March, 1916.

49805, nestling, marked by Mr. R. E. Knowles on the east Cheshire Hills, on June 11th, 1914. Reported by Mr. W. Rowe near Launceston, Cornwall, on Mar. 1st, 1916.

49807, marked as 49805, on June 28th, 1914. Reported by Mr. F. A. Morshead at Sidmouth, Devon, on Feb. 26th, 1916.

81479, nestling, marked by Mr. E. W. Hendy, near Sutton, Cheshire, on July 5th, 1914. Reported by the *Shooting Times* at Bridgend, Glamorganshire, on Feb. 28th, 1916.

COMMON SNIPE (*Gallinago g. gallinago*).—49647, nestling, marked by Major C. Turner near Newbury, Berks., on April 26th, 1915. Reported by Sir W. Portal at Whitechurch, Hants., on Feb. 23rd, 1916.

LITTLE GULL (*Larus minutus*).—47143, adult, marked by Mr. J. S. Allison at Louth, Lines., on Feb. 25th, 1915 (see Vol. VIII., p. 269). Reported by Mr. C. Gilbert Smith at Esbjerg, Denmark, on Feb. 3rd, 1916.

BLACK-HEADED GULL (*Larus r. ridibundus*).—26699, 29127, nestlings, marked by Mr. H. W. Robinson at Ravenglass, Cumberland, on June 5th and 19th, 1912. Reported near Carlisle, Cumberland (April, 1916) and Fleetwood, Lancs. (March, 1916).

61533, marked as 26699 on June 7th, 1913. Reported by Mr. H. T. Dale at Marloes, Milford Haven, Pembroke, in March, 1916.

61009, nestling, marked by Mr. F. W. Smalley at Raven-glass on June 7th, 1913. Reported by Mr. L. Wise at the same place on May 2nd, 1916. (Found among nests.)

26279, nestling, marked by Mr. T. C. Hobbs at Hallington Reservoirs, Northumberland, on June 17th, 1912. Reported by Mr. W. Fry at Instow, north Devon, on Feb. 22nd, 1916.

63755, nestling, marked by Mr. A. W. Boyd near Diggle, Yorks., on July 2nd, 1914. Reported by the *Shooting Times* near Gloucester in Jan., 1916.

63746, nestling, marked by Mr. A. W. Boyd at Delamere Forest, Cheshire, on June 21st, 1914. Reported in *Seculo* near Lisbon, Portugal, at the beginning of March, 1916.

BRITISH LESSER BLACK-BACKED GULL (*Larus f. affinis*).—

34800, nestling, marked at the Farne Islands, Northumberland, by Miss A. Pease on Aug. 2nd, 1914. Reported in *Seculo* at Portimao, Portugal, at the beginning of March, 1916.

34395, nestling, marked by Mr. H. W. Robinson at Foulshaw, Westmorland, on July 6th, 1915. Reported by Mr. A. C. Pereira at Lisbon, Portugal, on Jan. 20th, 1916.

MARKED ABROAD AND RECOVERED IN THE BRITISH ISLES.

STARLING (*Sturnus v. vulgaris*).—Moskwa Ornith. Komitet 1889F, marked at Lidsen, near Volmar, Livonia, Russia, on May 15-28th, 1914. Reported by Mr. J. A. Morton near Kidderminster, Wores., on Dec. 5th, 1914.

FIELDFARE (*Turdus pilaris*).—Palmen, Helsingfors, 778, nestling, marked near Lake Mandojayri, Finnish Lapland, on July 1st, 1915. Reported by Mr. H. E. Forrest near Shrewsbury, Shropshire, about April 4th, 1916.

MALLARD (*Anas p. platyrhyncha*).—Palmen, Helsingfors, —, nestling, marked at North Osterbotten, Finland, on June 17th, 1913. Reported by Mr. W. Eagle Clarke (*Scot. Nat.*, 1915, p. 22) near Wick, Caithness, on Dec. 10th, 1913.

TEAL (*Anas c. crecca*).—Leiden, 12719, marked at Schiermonnikoog, Holland, on Nov. 1st, 1912. Reported by Mr. R. Patterson at Downpatrick, co. Down, in Nov., 1913.

COMMON CURLEW (*Numenius a. arquata*).—Palmen, Helsingfors, 545, nestling, marked near Björneborg, south-west Finland, on May 30th, 1914. Reported by Mr. W. Eagle Clarke (*Scot. Nat.*, 1915, p. 22) near Galson, Butt of Lewis, on Oct. 3rd, 1914

NOTES

STAINED EGGS OF THE GREAT TIT.

I HAVE received from the Rev. N. W. Paine an egg of a Great Tit (*Parus m. newtoni*), stained black all over. Mr. Paine informs me that the nest, found at Great Melton Rectory, Norfolk, was built in a cup-shaped fork of a tree open to the sky. There were eight eggs in it and these were all coated with some black substance like the one he forwarded to me. The nest was very liable to be flooded owing to its position, and later, after heavy rain, the remaining eggs were washed almost clean. The bird subsequently deserted.

J. H. GURNEY.

I have examined microscopically the substance coating one of these eggs and have little doubt that it is faecal matter. It covers the egg uniformly, being nowhere thicker in one place than in another, is of a brownish-black colour and of the consistency of tar. Dissection of the parent bird might have shown some structural abnormality in the oviduct or cloaca and possibly explained the occurrence. M. D. HILL.

PIED FLYCATCHER IN SOMERSET.

ON April 24th, 1916, I saw a male Pied Flycatcher (*Muscicapa h. hypoleuca*) near Porlock, Somerset. I passed the same spot later in the day and again on the 25th and 28th, but did not see it, so the bird was probably a passing migrant. The Pied Flycatcher is rare in Somerset. C. Smith (*Birds of Somerset*, 1869) mentions one bird "apparently a male" near Taunton "some years ago." In some privately published notes of the Somersetshire Archæological and Natural History Society, covering the period 1865 to 1913, by James Turner, two males in April, 1891, at Bagworth, near Axbridge, and one male in the third week of April, 1901, near Milverton, are recorded. In the same notes it is stated that the bird has bred in Devon within one mile of the Somerset county boundary.

E. W. HENDY.

[Migrants are recorded from Somersetshire in April or May, 1905, 1906, 1907 and 1913, in the B.O.C. *Migration Reports*, so that the bird is probably a fairly regular migrant to the county. It has also been recorded from Wells in 1870 (*Zool.* 1871, p. 2439), at Weston, April 27, 1900 (*Zool.* 1900, p. 237) and one was seen late in May on the Somerset Moors

(Zool. 1875, p. 4533). The Rev. F. L. Blathwayt (*Vict. Hist. of Somerset*, I., p. 149) says: "A few pairs probably nest in the Exmoor district. A nest with five eggs was found near the Bristol city boundary and within the county of Somerset in 1899 (Dr. J. A. Norton, Bristol)." It has been recorded as breeding regularly in Devon very close to the Somerset boundary (*B.B.*, V., 134).—EDS.]

ROBINS BUILDING NESTS IN SPRUCES.

IN connexion with Mr. J. H. Owen's note on this subject (*supra*, p. 42) I may note that on March 28th, 1904, in the churchyard at Watton, Herts, I watched a Robin (*Erithacus r. melophilus*) to its nest in the top of a small thick cypress tree. The nest was in the middle of the top of the tree, and about five feet from the ground, and the tree, being slender, would have swayed considerably in a high wind. The nest was about half finished, but it was unfortunately destroyed before being completed. A Greenfinch built its nest in the same spot three weeks later (see *Zoologist* 1904, p. 190).

On May 13th, 1905, in a wood not far from the same locality, I found a remarkable assemblage of nests, all in the centres of small thick spruces, which averaged about five feet in height. They were a Song Thrush's, a Hedge-Sparrow's, a Common Wren's, a Chaffinch's and a Robin's, all within a radius of about twelve yards. The Robin's was in a very small spruce of close and stunted growth. It was a shallow nest of moss, lined with fine roots, with a few dead leaves around the margin, and contained three fresh eggs. In Switzerland I have observed that the Continental Redbreast (*E. r. rubecula*) is common in spruce woods, as for instance about Kandersteg, but is never seen near human habitations and roadsides.

ALLAN ELLISON.

SPOONBILL IN NORFOLK.

ON July 6th, 1916, I saw a Spoonbill (*Platalea l. leucorodia*) on the marshes between Cley and Salthouse, Norfolk. I had been examining a flock of gulls when my attention was drawn to a bird, standing apart, by the longer and dark legs and the striking whiteness of its plumage. The bird, alarmed by someone coming along the road, took to flight and gave me a good view of the long spatulate bill, which left no room for doubt as to the species. After mounting to a considerable height the Spoonbill flew off in a westerly direction.

W. E. GLEGG.

DIVING OF THE PINTAIL IN CAPTIVITY.

MY note on the diving of the Wigeon (Vol. IX., p. 301), and Mr. Abel Chapman's comment thereon (Vol. X., pp. 22-23), leads me to add a note on the diving of the Pintail, another surface-feeding duck which certainly does not dive in ordinary circumstances.

On my pond I have had, for rather more than two years, a fine pair of pinioned Pintails, which have been from the first remarkably tame and healthy. I had never seen either of the pair diving until the morning of 24th April last, when I watched the male engaged in diving vigorously at a spot where the water is, I estimate, between three and four feet deep. After I had caught sight of him so engaged, I saw him dive twelve or fifteen times, going under on each occasion quite naturally and expertly, always at the same spot, and remaining below the surface from eight to ten seconds. I timed him by watch. Between each immersion he remained on the surface for a few seconds, apparently looking downwards and considering matters. After that, down he went almost suddenly. I could see by the swirl on the surface of the water that, while he was below, he was moving about vigorously; and he often came up four or five feet from where he went down. In the afternoon I saw him diving again at the same spot; but he did not go under so many times or remain under so long on each occasion. He dived thus, no doubt, to reach something which had sunk to the bottom at the spot in question; but I cannot imagine what it may have been.

No doubt, as Mr. Abel Chapman remarks, this habit of diving, so unusual in the species, was one result of living a more or less abnormal life in captivity. MILLER CHRISTY.

COMMON SCOTER IN SHROPSHIRE IN SUMMER.

AN immature example of the Common Scoter (*Oidemia n. nigra*) was obtained on Betton Pool, near Shrewsbury, about the middle of June, 1916. This duck is an irregular winter visitor to Shropshire, flocks numbering as many as twenty having been recorded at that season, but I have never before known it to occur in summer. H. E. FORREST.

ON THE STATUS OF THE COMMON CURLEW AND
THE BLACK GROUSE IN WILTSHIRE.

I. THE COMMON CURLEW.

I AM glad to be able to state that the wish expressed in the last paragraph of my note on the Common Curlew (*vide*

antea, p. 44) has been fulfilled, and that the bird has been proved to have nested in Wiltshire. The facts are as follows. On Sunday, July 2nd, 1916, while walking on Salisbury Plain, about a mile from Tidworth, I heard a pair of Curlew calling, and on approaching them I was convinced from their behaviour that they had young, but after watching for over an hour I was obliged to leave unsatisfied. On July 4th, Captain Ashley, R.A.M.C. and I rode to the spot, and though no Curlew were to be seen there, we eventually located one bird about a quarter of a mile away. Captain Ashley hid himself, while I led the two horses away, but though he watched for some time he failed to find any young. We were on the point of giving up the search when my dog found and killed a young Curlew of about a week old, thus effectually proving that the bird does, at least occasionally, nest in Wiltshire.

In the note referred to above I stated that I knew of no part of the county which was really suited to the requirements of the bird, and though I have since found it nesting (and within a mile of where I was writing), I can only say that the locality was far from being of the type which previous experience has taught me to associate with the Common Curlew, being merely typical down land. It is rather a curious coincidence that I should find this bird the day after I had published my disbelief in the nesting of the Curlew in Wiltshire.

II. THE BLACK GROUSE.

The references to Wiltshire (quoted by the Rev. F. C. R. Jourdain) from Mr. Harting's *Handbook of British Birds*, 2nd ed., p. 133, are taken from Smith's *Birds of Wiltshire* and are those to which I alluded, in general terms, in my note (*vide antea*, p. 45). G. BATHURST HONY.

LARGE BROOD OF MOORHEN.

ON my pond at Burnage, Didsbury, on July 2nd, 1916, a pair of Moorhens (*Gallinula ch. chloropus*) hatched out a brood of fourteen young; as there is only one pair of birds on the pond, it precludes the possibility of these being the product of two hens.

HERBERT MASSEY

[Probably this is about the largest clutch on record, as the cases in which nineteen, twenty, twenty-one and even twenty-six eggs have been found in one nest are almost certainly the produce of two or more females,—EDS.]

COCK PHEASANT INCUBATING.

SOME days ago my attention was called by one of the haymakers to a *cock* Pheasant sitting on seven eggs. I could hardly believe his statement, but on visiting the spot it was found to be perfectly accurate, and subsequently six out of the seven eggs hatched off. Nothing has been seen of the brood and they are probably dead, as the weather has been very bad. I have heard of Turkeys being induced to care for broods, also domestic cocks and capons, but not to incubate, and I never knew a cock Pheasant take the slightest interest in a nest except perhaps to eat the eggs. It was not a case of a hen bird assuming the male plumage, but an ordinary cock.

HEATLEY NOBLE.

[A good many instances of cock Pheasants incubating have been recorded from time to time, and in *County Life* for June 30th, 1906, a photograph of one on the nest was published. See also *Field*, June 27th, 1891; July 5th and 19th, 1902; June 5th and July 10th, 1909, and July 22nd, 1911, for other instances.—Eds.]

BREEDING HABITS OF THE GRASSHOPPER-WARBLER.—Mr. H. B. Booth contributes a paper to the *Naturalist*, 1916, pp. 167-170, 199-203, based upon the observations of Mr. S. Longbottom, in which some interesting evidence is brought forward as to the incubation and nestling period of *Locustella n. naevia* and also with regard to the persistency of reeling during the breeding-season and the question whether it is double brooded or not.

In this case incubation apparently had begun with the fifth egg on May 30th, though another was laid on the following day, and on June 11th four eggs had hatched out, while on the 13th all six were hatched. This gives an incubation period of about twelve days, or thirteen if incubation began with the fourth egg. A writer in *Country Life* (July 10th, 1909) notes that in a nest in which the sixth egg was laid on May 31st, the young were hatched out by June 14th, which is confirmatory as far as it goes. Mr. H. E. Howard, however (*Brit. Warblers*, Pt. I., p. 19), states that it lasts for "about sixteen days." Here the period is almost certainly over-estimated, when one considers the size of the bird, and the corresponding period in allied species.

The fledging period was about ten days in the first case and nine in the second, while according to Miss E. L. Turner's observations the young remain twelve days in the nest.

The late dates at which eggs and young have been found render the rearing of a second brood almost certain, but it is satisfactory to learn that the pair under observation undoubtedly reared two broods, with an interval of about eighteen days between the date of the young leaving the nest and the completion of the second clutch.

Reeling was noted only from arrival till mating had taken place. It then ceased, and was not heard again till after the young had flown, and then only for about four days, and lastly in a weaker form for a day or two after the fledging of the second brood. This leads to the inference that birds which reel persistently through May and June and even into July have failed to find mates. F.C.R.J.

BUFF-BACKED HERON REPORTED FROM SOMERSET.—Mr. Stanley Lewis states (*Zool.*, 1915, p. 318) that a specimen of *Ardeola ibis* was shot at Martock, Somerset, on January 28th, 1909, and was preserved by a Mr. Sherring. The data were pinned round the neck of the bird, and Mr. Lewis received the specimen from a friend of Mr. Sherring. The specimen has been submitted to Mr. Ogilvie-Grant, who has verified the identification, but the history of the bird does not seem quite clear.

GREY PHALAROPE IN YORKSHIRE IN WINTER.—Mr. F. Snowdon states (*Nat.*, 1916, p. 239) that an example of *Phalaropus fulicarius* frequented the harbour at Whitby for about a week from December 15th, 1915. The bird is rarely seen in the British Islands in winter.

ARCTIC SKUA KILLING LAMBS.—Evidence is given in the *Field* (20.5.'16, p. 812 and 3.6.'16, p. 881) of an Arctic Skua (*Stercorarius parasiticus*) killing lambs. Three persons saw the Skua kill three lambs. "The bird alighted on the lambs' backs and picked their eyes out, and tore them under their tails, and then never went near them again." The bird was subsequently shot and sent to the *Field* office.

ARCTIC SKUA IN LONDON IN MAY.—Mr. E. D. Cuming writes (*Field*, 27.5.'16) that he saw an Arctic Skua pass over Hyde Park low down on May 16th, 1916. The bird is not often observed inland on the spring passage.

WATER-RAIL AT ST. KILDA.—Mr. W. E. Clarke states (*Scot. Nat.*, 1916, p. 77) that a *Rallus a. aquaticus* which was sent to him was obtained on Hirta, St. Kilda, late in the autumn of 1915, and that this is the first recorded occurrence of the bird in that island.



REVIEWS



Yorkshire's Contribution to Science. With a Bibliography of Natural History Publications. By T. Sheppard, M.Sc. (Brown & Sons, Ltd.). 5s. net.

IN this work, which appears to have grown out of an address delivered by the author as President of the Yorkshire Naturalists' Union, a great quantity of valuable information has been brought together concerning the "bibliographical particulars of the various journals and Societies' Transactions" used at various times in the county of Yorkshire. These are dealt with under the following heads: Yorkshire Publications arranged Topographically, Existing Yorkshire Scientific Magazines and their Predecessors, Yorkshire Scientific Magazines now Extinct, County and Riding Societies, and Yorkshire Topographical and General Magazines. The information brought together under these heads forms a valuable mine of reference to the student in these subjects. It must be confessed, however, that Mr. Sheppard's work would have been far more useful had he dealt as thoroughly with books as he appears to have done with the other publications. We find, for instance, the following omissions: *The Birds of Wakefield*, by William Talbot, 1877; *Thickston's Guide to Scarborough* (10th edition, 1871), containing a number of pages devoted to Natural History; *Handbook to Bradford and the Neighbourhood*, 1900; *A History of Whitby and Streoneshalh Abbey*, by Rev. George Young, 1817. The works mentioned were all printed in Yorkshire; the omission of many other books relating to Yorkshire Natural History but printed outside the county might be cited. Where books are quoted we find the particulars are hardly so full as we should have expected. Thus, in citing Mosley's *History of British Birds*, Mr. Sheppard omits to inform us that the 69 numbers (he only mentions 68) appeared in 59 parts and that the work was issued in two editions, "superior" and "ordinary."

Besides dealing with purely Yorkshire publications, the book also provides details of general natural history journals, scientific societies, books of reference and other useful items. The treatment of these is not always consistent, which detracts rather from the value of the work. Thus we find mention of the successive editors of some journals but not of others, and this information could have been fairly easily obtained, as for instance in the case of the *Ibis*, whose editors

are not detailed. In the account of *Knowledge*, we note a little mistake which is perhaps worth correcting, viz., that it was not acquired by Witherby & Co. until just previous to the death of its former proprietor and editor, A. C. Ranyard.

We have made these criticisms of detail in the hope that some day Mr. Sheppard will issue a second edition of the work, making it still more complete and thus still more useful. Did we not know, as readers of the *Naturalist*, that Mr. Sheppard (its editor) was quite incorrigible in the matter of puns, we should appeal for the suppression of the somewhat crude examples on page 2, as well as any new ones, however tempting to the author.

HONOUR TO MR. W. EAGLE CLARKE.—On July 6th, 1916, at the University of St. Andrews, Mr. W. Eagle Clarke received the honorary degree of LL.D. We congratulate Mr. Eagle Clarke on this well-earned reward for his many years of valuable scientific work, especially in connexion with the migration of birds, which he has studied continuously since 1884.

BRITISH BIRDS

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SOME BREEDING-HABITS OF THE
SPARROW-HAWK.

(4) THE NESTLING.

BY

J. H. OWEN.

WHEN the long incubation-period is over, the egg-shell chips or cracks. Sometimes the young bird will then emerge in a few hours, but the shell of the Sparrow-Hawk's egg is so thick that many hours, usually at least twenty-four (sometimes as long as four days), must elapse before the young one is completely free from it. I have, in fact, watched the old hen help one to free itself from the shell. The first few hours of the young bird's existence are spent in getting dry from the moisture of the shell. This is done comfortably under the warm and gentle pressure of the breast of the old hen. The bird is then one of the most beautiful nestlings in existence. It is covered with a short, thick, pure white down, which is thicker and shorter on the head than the body, while on the back at the junction of the neck and body it is rather scanty. The leg is bare from the ankle to the foot on the under side, but the down comes below the ankle on the upper side. The legs and toes are flesh-coloured, the talons light ash-grey. The iris is very dark brown, sometimes with a tinge of grey in it, the pupil a very deep indigo. The culmen is short and curved with the base flesh-colour, the point black, and a small white excrescence at the bend. The lower mandible is flesh-colour with a dark ash-grey stripe on each side, the tip slightly darker. The mouth and tongue are pink flesh-colour.

Though very weak when first hatched, the young birds have very great vitality and can exist for a long time without being brooded, though normally the hen broods closely for the first few days. On one occasion on a broiling day in July we kept the mother away rather a long time from a young one not twenty-four hours

old. The flies troubled it very much and it seemed almost dead. A careful examination showed that a fly had been inside the mouth and laid eggs, so we carefully cleaned it out and left at once; this young bird recovered.

At first the old bird has to place bits of flesh to the young one's bill, but from the very first the nestling knows how to get the food down by feeble jerks of the head and simultaneous gulping. At four days old it can prop itself up on the ankles and feet and take food from the old one's bill. After that there is no difficulty about being fed. When first hatched it seems mute at meals, although it can make a cheep in the chipped shell which is like the food squeal given later. This cheep can be heard at twenty to thirty yards. From a few hours old it can make faint noises indicative of discomfort, but the real food squeal does not seem to be uttered until it is some days old. When all the young are old enough to sit up and grab the food from the mother's bill, they group themselves in the arc of a circle. At first the old bird discriminates between them in feeding, but as time goes she is not so particular, though she always attends particularly to the youngest of the family.

After they are a week old there is a great change in the young. They have doubled in size, their down is also much longer, and they have a rather disreputable vulturine look about the head, especially after a meal. Their strength is much greater and often two make a grab for the same piece of food. They now show considerable disinclination to being brooded and will slip from under the hen for short spells. If she does not think one ought to be out, she hooks him under very gently with her bill. As time goes on they show more and more disinclination to be brooded, and by the time the youngest is twelve to fourteen days old the hen may just be sitting on the nest by the side of the nestlings, without attempting to cover them. Feather-quills can

be felt forming on the wings when the young are about eight days old, but they seldom show through the skin until the tenth to eleventh day. There is such a difference in the size of the cocks and the hens that it is possible to tell the sex almost to a certainty at ten days old, especially if there are several young for comparison.

From the very earliest stage the young are instinctively



Fig. 1. SPARROW-HAWK.

Young twenty-five days old; three resting, while the fourth has just finished preening.

(Photographed by J. H. Owen.)

cleanly. They back towards the edge of the nest and eject the dung into the void below. At first the nest gets spattered and the hen sees to this. Later the limbs and tree below and around the nest get liberally coated with whitewash. All the food that is swallowed and not digested collects into pellets and these are brought up and fall in the nest. These, too, the old hen disposes of after each meal, sometimes, especially in the earlier days, by swallowing, and sometimes by throwing them over the edge of the nest. In the later

stages she often flies away with them and drops them. The young are greatly troubled with fleas and are always flea-hunting. Another pest which worries them is a tick-shaped fly with rudimentary wings, which Mr. Gahan of the British Museum tells me is *Ornithomyia avicularia* L.

As the nestlings grow older, the down continues to



Fig. 2. SPARROW-HAWK.

This serves to illustrate two points: (1) The top of the swing is a full stretch of both wings; (2) The top of the swing is the beginning of the "flap-dance."

(Photographed by J. H. Owen.)

grow in length and entirely changes in shape from a single stem to a branched stem. The young look particularly fascinating when they are fully clothed in white down, just before and just as the brown plumage begins to show. At this stage they begin to preen themselves much and often, and as they are as yet unable to stand, this has to be done lying down. Of course the rate of growth in the young is not always the same. The wing- and tail-quills appear first invariably, and I have known them to be as long as one inch and

three-quarters of an inch respectively on the 12th and 14th days. The feather-sheaths begin to burst on the wing-quills shortly afterwards, and this part may be half an inch long by the time the bird is fourteen days old. The eyes have begun to change, and now the iris is greenish-grey. There is a patch between the eye and the bill which now becomes bare and greenish-yellow in colour. By the seventeenth day this is nearly clear of down; later on it is covered with dark, downy, hair-like filaments. The eye, too, has more yellow in the iris, though at what age the iris becomes yellow like that of the old bird I cannot say; it is still grey in wild birds at six weeks old.

As the feathers appear the preening increases, also the flea-hunts seem to be carried out with greater intentness. When the young are under twenty days old, the brown plumage does not show up at all prominently except on the outer edge of the wings and on the tail. After this the progress of the plumage is wonderful. The young leave the nest when a hen is twenty-nine or a cock twenty-eight days old. They have still got a large amount of beautiful white down on them, and this does not go entirely for about another three weeks. The last traces are to be seen on the head and the back.

They begin to try to pull at a carcass while the hen holds it when they are about seventeen days old. They use the same pull and twist action that the hen does, but of course seldom get anything but the minutest fragments off at that age. They can stand for a short time, but not for long, when they are nineteen days old, and their power of feeding increases almost exactly with their power to stand on their legs. Thus a bird of twenty-one days can certainly get bits off a carcass, and would most likely live if provided with food, while a bird of twenty-three days can feed itself. I have watched a bird of this age demolish almost the whole of a bird deposited by the cock. I was once witness of a very quaint episode with a bird of twenty-three to twenty-four



Fig. 3. SPARROW-HAWK.

Old hen keeping watch while young, 25 days old, feed.
(The stooping bird has the food, and the left hand bird is trying to draw it away with the foot).
(*Photographed by J. H. Owen.*)

days. It had eaten the whole of a young House-Sparrow except the head and neck, which however were stripped of the skin. Picking this up by the neck the youngster managed to jerk it down its throat until the head of the Sparrow was against its bill. It then opened its mouth wider to jerk the head in, but this it could not do, partly because the head of the Sparrow was rather too big, and partly because the neck hit the inside of the young Hawk's mouth and so thrust the head out again. This effect was also produced by the Hawk holding its own head rather downwards towards the nest. After a time the bird threw the head down and left it, but shortly returned, and after much effort broke it up and swallowed it bit by bit.

The young do not use an alarm note until brooding is finished. Then they get noisier and noisier as they grow older, and call "kew-kew" whenever they are disturbed, but in quite a different key to the old hen and cock. When the observer comes in sight they draw away and lie on their sides with the beaks open and the tongue working rapidly. The tongue collects moisture, somewhat like saliva in nature, and this sometimes drips out but is occasionally spat at the intruder. Later they will show their objections in various ways. Sometimes they stand up with wings fully extended and almost meeting behind their backs and the mouth working as before. At other times they try to crawl away on the branches or even to fly or scramble out of the nest and flutter to the ground.

When heavy rain commences, they bunch close together with their heads in the centre and wait to be brooded. In the day, when the sun is hot, they usually try to keep on the cooler parts of the nest, but when the power of the sun is getting less they all try to get into any sunshine that falls on the nest.

When they are able to stand, the amount of preening increases greatly. Almost the whole of the time not spent in feeding or sleeping is spent in this and cleaning

(Fig. 1). The wings and tail receive an exceptional amount of attention. Each of the flight-feathers is taken in the bill and drawn through it at least once, but often two or three times. The same is done with the long tail-feathers, especially the basal portions. Very great attention too is paid to the wing-coverts, especially in the way of smoothing and arranging them. The head receives least of all, because it has to be done with the foot only and the other foot is not strong enough to support the bird. The results of early efforts are therefore rather amusing to a concealed observer. The feet are cleaned very carefully after a meal; this is especially the case when a bird has broken up a carcass itself, then the claws that have held the meat are drawn roughly through the bill exactly in the same way as it is done by the old bird. The bill is wiped rapidly up and down a twig several times, often rubbed in the nest, and possibly scratched with the foot as well. The action of wiping is very like the way a hone is passed up and down a scythe.

In watching the young birds at this stage one's attention is above all drawn to the wing "treatment." The wing is stretched carefully at frequent intervals. It is opened slowly to its widest extent, then there is a short pause, after which it is shut up like a knife in one rapid movement. One can almost hear a click as it closes. This is often done when the bird is lying down as well as when it is standing. At the same time one of the feet relaxes its hold and shows movement; the same thing will be noticed if a man stands and stretches an arm fully when the pressure on the corresponding foot is eased considerably. Sometimes the young birds work their wings and move slightly, usually backwards, as they do so. I have many times marvelled that one has not fallen, or pushed another, off the nest while this is being done. Scores of times I have seen this almost happen, but not quite. The weirdest performance of all, however, is the exercise we named the "flap dance." The bird extends its wings fully and slightly above the

horizontal (Fig. 2), and with very rapid quarter beats, flaps its way round the nest. At each flap it jumps one or two inches from the surface of the nest and makes an inch or two of ground each beat. The number of beats is from three to eight, or even more. The feet seem to open and shut and sometimes close on part of another young one's body, bringing forth sharp cries from the injured one.

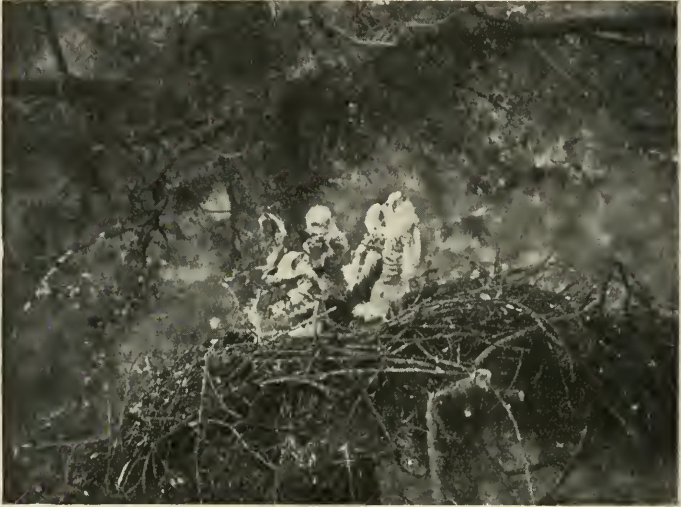


Fig. 4. SPARROW-HAWK.

Young watching the approach of parent bird.

(*Photographed by J. H. Owen.*)

These "flap dances" often take place suddenly in the midst of preening, and when one bird begins at least one of the rest immediately copies the exercise. As they get older it is not an uncommon thing for all to go through the exercise after a meal. At first the young are very sleepy after a meal, but they gradually become less so and later they are exceedingly active for five or ten minutes after a meal.

Another curious exercise is one for working the leg muscles. The leg is lifted and pushed forward as for

the goose step, but, instead of being brought down, it is kept rigid, and the toes are opened and shut slowly several times ; then the foot is opened widely and shut again as it is being brought down on the nest.

As the hen begins to stop breaking up the food towards the end of the nestling period, each young one makes a



Fig. 5. SPARROW-HAWK.

Young one, 27 days old, covering food on the approach of a second young one.

(Photographed by J. H. Owen.)

meal in turn (Fig. 3). No other young one is allowed to touch the food and the beak is used freely and viciously by the one in possession to keep the others off. When the cock brings prey, all the young utter various cries to attract him (Fig. 4), and as he is alighting they make a wild rush at him. The consequence is that he gets knocked very roughly off the nest by the young, and particularly by the young

one that gets the food. This one then crouches over it, holding it with both feet and spreading its wings and tail out and down so as to hide the food completely, as well as protect it, from the others. The attitude is very similar to that of one of the old Hawks overcoming strong game on the ground. If only one young one is in the nest when the cock arrives and another comes to the tree afterwards, this attitude is always assumed, but not if either parent bird comes (Fig.5). At this stage and until the use of the nest as a dining-table is given up, bones are allowed to accumulate there. It also always seems to me that, on the whole, bigger game is now brought to the nest. Pigeons, either taken out of the nest or those that have not long left the nest, Jays, Blackbirds, Thrushes, young Starlings, to a large extent take the place of the Finches, Tits, Warblers, etc., that are brought so often in the nestling period, though of course small birds still figure largely in the bill of fare. It is also very noticeable that almost invariably the heads of large victims are removed but not those of the smaller birds. Another striking point is that the larger the victim the more it is prepared for eating before being brought to the nest. For example, Jays and Pigeons have no flight feathers on the wings, these being either pulled out or cut off about an inch from the flesh. The young do not trouble much about picking the wings of these larger victims, but breastbones invariably bear marks of the Hawks' bills on them and are picked very clean. If the young are well supplied they often leave the heads of the Finches. The old birds themselves, it should be remarked, cut off and leave the front of the head and the bill of hard-billed birds like Greenfinches when they eat them. This is very different from the practice of Owls, from whose pellets whole skulls can be obtained in numbers.

The notes of the young when they answer the cock's call vary greatly individually. It would almost seem as though each bird of the family had a different note.

One will make the food squeal of the young bird, but much more loudly: another a sort of sibilant whistle, well known to keepers, while the other notes are rather difficult to represent by means of letters and are subject to variation. Some, which I got down more or less to my satisfaction were, "weal, weal, wee-oo, wee-oo," and later on "pay-ee, pay-ee," "kay-ee, kay-oo, kee-uk."



Fig. 6. SPARROW-HAWK.

Young bird, 34 days old, feeding on the nest.

(*Photographed by J. H. Owen.*)

When they are first fit to leave the nest the young go to a tree only a few yards away, and flap from branch to branch and back to the nest when they get hungry. Their powers of flight increase very rapidly and by the thirty-first day they can fly quite well. By the end of the fifth week they are really strong on the wing and can come to the nest almost noiselessly (Fig. 6). They are exceedingly wary, and the least sound in the neighbourhood of the nest puts them off. At this period of life they are difficult to watch with good results, because if

they get put off their own nest often, they feed on old Pigeons' nests in various parts of the wood. Through it all the cock, I think, does most of the hunting. The hen hunts to a certain extent, but only in the neighbourhood of the nest and chiefly for her own consumption ; at any rate, she always seems now to think of herself first. Careful watching shows that she has favourite feeding-places where she eats what she needs, afterwards taking a perch near and preening herself thoroughly.

In the hot summer of 1911 I was continually finding nestling Sparrow-Hawks lying, often alive, under the nests ; most of them were only two or three days old. My watching from huts has never explained this to me, and I put it down to one of two causes. Either the sun struck very hot on the nest and the young wriggled over the side in trying to avoid it while the hen, for some reason or other, was not brooding ; or the young rolled off the nest when they backed towards the edge to eject dung. At one nest three out of four came to grief and the fourth was reared.

(To be continued.)

AUSTIN GEOFFREY LEIGH.

WARWICKSHIRE ornithology has sustained a very serious loss by the death of this young and ardent worker, who was killed in action in France on June 4th, 1916.

The third and youngest son of Mr. George L. Leigh, he lived practically the whole of his life at Hampton-in-Arden, Warwickshire, where he was born on July 20th, 1893. He was very early in life attracted by the bird-life around him and began making observations and collecting eggs. By the time he reached his eighteenth year this predilection had become a passion, and he conceived the idea of producing a history of the birds of Warwickshire. From that time, till he joined the Army towards the close of 1914, the greater part of his leisure was employed in collecting material for what he intended should be the great work of his life. He had already accumulated a considerable amount of matter, but had no intention of publishing for some years to come, for though such a work as he contemplated must necessarily be to a large extent a compilation, yet he wished it to be as far as possible a record of his personal experience and observation.

Soon after the war broke out Leigh enlisted as a private in the 2nd City (Birmingham) Battalion of the Royal Warwickshire Regiment. and at once threw himself into his military duties with the zest that characterised him in everything he did, quickly becoming an expert rifle-shot and getting his stripe as lance-corporal. This unfortunately put a stop to his systematic ornithological work, but he continued to make notes on birds whenever opportunity offered, and as for some months he was still in his native county of Warwickshire, training at Sutton Coldfield, he added to his store of information, finding for instance two nests of the Stonechat, thus establishing the fact within his own experience and much to his satisfaction that this bird is a Warwickshire breeder, statements on the subject by other authors being of too general a character to satisfy his very exact mind.

From time to time he contributed notes to *British Birds*, amongst which may be mentioned one on "The Development of a Young Kestrel" (Vol. IV., page 298), and those on the occurrence of the White-winged Black Tern (Vol. III., page 168) and Long-tailed Duck (Vol. VII., page 199) in Warwickshire; but what he especially plumed himself upon was his discovery of the Redshank as a regular breeder at Hampton and Packington. This was the subject of his first contribution (Vol. II., page 33). He was eminently a practical field-ornithologist, with a power of vision and an alertness of mind that enabled him to note at a glance the most striking visible features of any bird he saw; he had an excellent ear and a good knowledge of bird-notes. Another most useful accomplishment he had was the faculty of making accurate rough sketches in the field; in fact, though he had no special training, he was the son of an artist and inherited in no inconsiderable degree the artistic talent and temperament of his father.

From its inauguration Leigh took a great interest in the *British Birds* ringing scheme, and expected that in time great results would accrue from it. He himself ringed large numbers of birds in his district and was highly pleased when any of them were subsequently taken at places which seemed likely to throw light on migration, and he had several notable successes in this direction.

Personally, he was one of those clean-souled men whom to know is to love. Fearless, upright, totally devoid of self-consciousness or conceit, he said and wrote nothing but what he believed to be absolutely true, without any regard to effect. Dubious or speculative statements on ornithological matters were ridiculed in no uncertain terms, he being of opinion that such were injurious to his beloved science, and he would have none of them.

T. GROUND.

LIEUT.-COLONEL BOYD R. HORSBURGH.

WE regret to record the death of Lt.-Col. Boyd Robert Horsburgh, A.S.C., which occurred on July 11th, 1916. From his earliest childhood he had been devoted to Natural History in all its branches, but birds were his special hobby, and in the ornithological world he was well known as a successful aviculturist. His ponds at Tandridge Priory, Oxted, his charming home in Surrey, contained numbers of Ducks and Geese, including some of the rarer American species seldom kept in captivity in this country. He imported some fine collections from India and elsewhere, including Minivets, Sunbirds and other species which had not previously been seen alive in England. Besides contributing articles to the *Avicultural Magazine*, he published, in 1912, *The Game Birds and Water-Fowl of South Africa*, illustrated by Sergeant (now Lieutenant) C. G. Davies, 1st S. African Mounted Rifles, who also contributed a number of valuable field-notes.

Col. Horsburgh was the elder son of the late Capt. C. B. Horsburgh, and was born at Poona on July 27th, 1871. Educated at Wellington and Sandhurst, he joined the Warwickshire Regiment in 1893, and served for two years in Ceylon, subsequently exchanging to the Army Service Corps. He saw active service during the Sierra Leone Rebellion, 1898-99, and in the South African War, 1899-1902, when he was invalided home, receiving the Queen's and King's medals with five clasps. In 1902 he married Miss Elizabeth R. Mitchell, daughter of Mr. Chapman Mitchell of Philadelphia, U.S.A., and in 1912 retired from the Army with the rank of Major and settled down in his home in Surrey till the outbreak of War in 1914, when he was recalled to the A.S.C. He eventually went out to France as Lt.-Col. and was present at the battle of Loos, when he was mentioned in despatches. He was invalided home in November, 1915, and underwent an operation from which he never recovered. A keen sportsman and genial companion, it is sad he should have died in the prime of life. W.R.O.G.

CAPTAIN J. M. CHARLTON AND LIEUT. H. V. CHARLTON.

CAPTAIN JOHN MACFARLAN CHARLTON was killed in the great attack, near La Boisselle, on July 1st, 1916, the twenty-fifth anniversary of his birthday. He fell, shot through the head by a bullet, while leading his company, after having taken the first and second lines of enemy trenches and when just about to charge the third; his last words being to his orderly: "Is that you, B——? For God's sake, push on, I'm done." The orderly stooped down and asked if there was anything he could do, but the Captain was dead.

He joined the Northumberland Yeomanry in October 1914; received his commission in the Northumberland Fusiliers in the same year, and was promoted Captain in the 21st N.F. (2nd Tyneside Scottish). He was educated at Uppingham, where he was secretary to the Natural History section of the school. His class-master writes of him on July 13th last: "For a boy, as he then was, he had a wonderful knowledge of birds, and quite remarkable powers of observation. Ornithology is my hobby and we spent many afternoons together, when his bright, sunny nature, his sense of humour, and his attractive personality made him a very pleasant companion. I remember the editor of the *Avicultural Magazine* was much struck by his work in our ornithological report for the year, which was entirely Charlton's writing."

He had, at an early age, shown conspicuous ability in an illustrated essay on "The Birds of the Farne Islands," while competing for the John Hancock prize of the Natural History Society of Northumberland in 1903, regarding which the late Canon Tristram wrote to him that he had had the duty of adjudicating upon the essays, and although Charlton did not win the prize, the Canon was so pleased that he gave him a special present for his work. In December 1910 he won a special bronze medal given by the Royal Society for the Protection of Birds

(Public Schools Competition); in 1912 he wrote "The Birds of South-East Northumberland" for the *Zoologist*, which was later published in pamphlet form, with map and illustration. In 1913 "Notes on Norwegian Birds" appeared in *Country-Side*, and afterwards as a "separate" paper; he also supplied *British Birds* with a number of interesting notes, commencing with Vol. IV., and wrote many short articles in other journals and local papers. He was a most skilful and artistic taxidermist, his methods of mounting birds in natural positions being, as a near relative of his observed, "equal even to those of my dear old friend, John Hancock," whose work both Charlton and his brother so much admired. The writer is of opinion that he would have made a great name, if he had been spared to continue his studies, in that branch of ornithology alone.

As a soldier he had won golden opinions from his superior officers, and also from the men under him, and before the attack in which he fell, had already greatly distinguished himself, and been recommended for the Military Cross.

LIEUTENANT H. V. CHARLTON.

LIEUTENANT HUGH VAUGHAN CHARLTON, N.F., fell in action near Whychaate, on June 24th, 1916, struck by a bomb from a trench mortar. He was thirty-two years of age, and joined the Armstrong College O.T.C., receiving his commission in August of last year. He, also, was a clever ornithologist, and the brothers worked much together, though Hugh's inclinations leaned towards animal painting, for which he studied in Newcastle, Edinburgh and London. Birds were his speciality; his work was very artistic, and he had a fine sense of colour and beauty in nature and in art, and was a sound critic. His paintings had already been hung in exhibitions in the cities where he had carried on his studies. One of his pictures, "The Home of the Dipper," was exhibited in the Royal Academy of 1912.

As an officer he had earned warm tributes of affection from his Colonel and comrades: he devoted all his energies to his military duties, and, what makes his death doubly sad, is the knowledge that he had, a few days before, received an important appointment on the Staff.

Both the Charltons were keen sportsmen, taking special interest in wildfowling, for which they had exceptional opportunities on the Northumberland coast. It may truly be said of them that they would have shone in whatever profession they chose; they were patterns of honour, integrity and gentlemanly character, as well as being charming companions. The writer deeply deplores their untimely death, a feeling that is shared by all who knew them, and lovers of natural history will regret that ornithology has lost two students of great promise.

Their father is Mr. John Charlton, the well-known artist, of Knightsbridge, S.W., and Newcastle-on-Tyne. On their mother's side they were great-grandsons of the late John Vaughan, one of the pioneers of the Cleveland iron trade, and grandsons of the late Thomas Vaughan, of Gunnergate Hall, Middlesbrough. T. H. NELSON.

NOTES

PARASITIC WORMS IN RED-BACKED SHRIKE.

ON or about May 23rd, 1916, a male Red-backed Shrike (*Lanius collurio*) was picked up dead beneath the stump of a withered tree near Chelmsford. Desiring to have it made into a skin, I sent it to Gardner's, in Holborn. After skinning, he returned the body to me that I might see an extraordinary collection of parasitic worms (evidently some species of *Filaria*) he had found beneath the skin of the neck—a thing he had never seen before. These worms, some twenty in number, were white in colour, slender, thread-like, of the same diameter throughout, and each about three inches in length. They were "rooted" (so to speak) in the flesh of the upper part of the neck, around the base of the skull. Some of them had, I believe, actually penetrated into the cranial cavity and reached the brain, passing through the basal orifice. They had been, without doubt, the cause of the bird's death.

I submitted the bird's neck, preserved in formalin, to Dr. A. E. Shipley, F.R.S., who had kindly offered to examine the worms. He reports that there is little doubt they are *Filaria nodulosa* of Rudolph. The species may be known now, he says, by some other name; for systematists have constantly revised the species of this genus, and it is difficult to obtain access to the latest revision whilst so many libraries and museums are wholly or partially closed. The species in question is, however, described in Molin's monograph on *Filaria* and in Schneider's monograph on the *Nematoda* (p. 91, 1866). Both writers describe it as living beneath the skin of the neck of the Red-backed Shrike. The phenomenon is, therefore, clearly not new, though several good British ornithologists to whom I have mentioned it have known nothing of it. As to whether other species of Shrike are affected, I know not.

It would be interesting to ascertain the earlier host of this curious parasitic worm: but, as to this, probably nothing is known. No doubt it is some beetle, or bee, or small vertebrate animal on which the bird is accustomed to feed.

MILLER CHRISTY.

[Out of eighteen Red-backed Shrikes examined by Herr J. Thienemann from different parts of Germany, no fewer than fifteen were infested with thread-worms (*Filaria*). Two

species have been recorded, *F. nodulosa* Rud., and *F. tridens* Molin. Kleinschmidt and Hennicke also state that old birds are usually found to contain thread-worms, frequently five or six in number. *F. nodulosa* has also been recorded by von Linstow from the Woodchat Shrike.—F.C.R.J.]

REELING PERIOD OF GRASSHOPPER-WARBLER.

IN Mr. H. B. Booth's "Notes on the Nesting of the Grasshopper-Warbler in the West Riding" (*Naturalist*, 1916, p. 168), referred to *antea*, p. 69-70, it is pointed out that in the case of the pair watched by Mr. Longbottom, the male Grasshopper-Warbler (*Locustella n. naevia*) ceased to reel after mating until the young had left the nest. It was then resumed until the second nest was arranged, when it again ceased and was finally heard in a weaker form, when the young had got away. Contrasting this behaviour with that of other males which reeled continuously for a couple of months or more, Mr. Booth suggests that they must have failed to find mates.

From observations made by me in the Broad district, the male as a rule reels continuously till the young are hatched. After that his song is regulated by his sense of duty, some males taking a larger share in feeding the young than others. Still, throughout May and June the breeding males may almost always be heard at dawn and dusk. In this district Grasshopper-Warblers remain in their breeding areas up to the time of migration and may occasionally be heard reeling in September.

E. L. TURNER.

SONG-THRUSH BREEDING TWICE IN SAME NEST.

IN the early part of this spring I saw a Song-Thrush (*Turdus philomelus clarkei*) sitting on a nest in an opening in a wall belonging to me, and later on noticed that the young were almost fully fledged. On July 3rd. I saw a Thrush carrying mud and re-lining the same nest, and now (July 10th) she has begun again to sit. Unfortunately I did not notice the date on which the young left the nest, so cannot give the interval between this and the re-lining. I have frequently known Dippers (*Cinclus c. britannicus*) use the same nest twice, but have not previously noticed the Song-Thrush do so.

DOUGLAS A. SCOTT.

[Although this is by no means a common habit of the Song-Thrush, it has nevertheless been recorded occasionally. In 1906 two broods were reared from a nest at Ashburne, Derbyshire. Another occurrence is noted in the *Field* for July 31st, 1875. Mr. O. V. Aplin also mentions an instance

in which the same nest was twice used in the *Zool.*, 1906, p. 312, and Mr. Ruddy records another case from Llandderfel, North Wales, in 1905 (*Caradoc and Severn Valley F.C. Record for 1905*), while Mr. H. E. Forrest records a similar case in the same publication for 1909. The Song-Thrush is not the only member of the genus which has been known to do this, as the same thing has been recorded of the Mistle-Thrush, and more frequently of the Blackbird, which has been known to use the same nest for three broods.—F.C.R.J.]

BLACKBIRD FEIGNING INJURY.

WITH reference to Mr. T. C. Hobbs' note on this subject (*antea*, p. 21), some years ago I observed a female Blackbird (*Turdus m. merula*) feigning injury when its young were in apparent danger. I am unable to refer to my notes made at the time, but remember the details quite clearly. The young birds had recently vacated the nest, and one had found its way on to a much frequented roadway. On my sudden appearance the female at once alighted on the road, and uttering the alarm cry loudly, proceeded to drag itself along with expanded wings and tail in precisely the same way as a Tree-Pipit will adopt when its eggs or young are threatened.

HOWARD BENTHAM.

HOBBY BREEDING IN LEICESTERSHIRE AND NORTHAMPTON.

A PAIR of Hobbies (*Falco s. subbuteo*) nested and reared a brood of young in a wood not far from Leicester in the summer of 1915. I saw both parents as well as the young. The female was unfortunately shot in August 1915, and came into my possession in the flesh. It has been submitted to the Rev. F. C. R. Jourdain, who states that it is an immature bird, having the feathers of the mantle and wings edged with pale rusty brown. Early this year a pair again arrived at the same wood, but apparently the female was trapped in May, for a wing found in a trap corresponded with the skin in my collection. For a few days after the male was seen flying about in the neighbourhood, but then disappeared. Early in August it was reported that four "blue hawks" were living in a plantation some distance away, and on August 15th the keeper brought me a splendid adult male Hobby and a young female, which could not have left the nest long. He had, I regret to say, killed all four birds in four shots, but the female and the other young bird fell in a field of standing corn, where they still lie.

W. HUBERT BARROW.

A PAIR of Hobbies (*Falco s. subbutco*) has bred for three successive seasons in a wood in the Kettering district. The nest contained four highly-incubated eggs on July 1st, 1916, two of which were not only very small, but also feebly marked. This is the only instance of a clutch of four eggs which I have met with.

PAUL L. PARKER.

[There seems to be no definite record of the breeding of the Hobby in Leicestershire since 1840 and 1841, when nests were recorded by Harley at Houghton and Martinshaw Wood.—EDS.]

EARLY MOVEMENT OF WADERS ON LANCASHIRE COAST.

ON July 29th, 1916, on the shore near Southport, I came across a party of twenty-seven Sanderlings (*Calidris alba*) and also a flock of twenty Knots (*Canutus canutus*), these last conspicuous in their full red plumage of summer. As this date is several weeks in advance of the usual period for the appearance of these species on autumn passage, as given in local works of reference, the occurrence seems worth noting.

THOMAS BADDELEY.

DIRECTION OF MARKINGS ON TERNS' EGGS.

ON referring to the figures of Terns' eggs in Seebohm's *Coloured Figures of the Eggs of British Birds* (Plates 29 and 30), I noticed that the characteristic twist so frequently seen in the markings on these eggs is shown from left to right downwards. This is shown more or less clearly in one of the figures of each of our five British nesting species. During the last few years, although I have measured and noted details of the markings of nearly three thousand eggs of Common Tern (*Sterna hirundo*) and Lesser Tern (*S. albifrons*), I have never come across an egg with the twist in the direction indicated by Seebohm, nor have I noticed it in other species, but in every case it has been from right to left. I should be glad to know whether this has also been the experience of your readers.

W. ROWAN.

[I have always attributed the reversal of the rotary markings in Seebohm's plates to the drawings not having been reversed when transferred to stone for chromo-lithography. This supposition is supported by the fact that two or three figures on Plate 46 of Seebohm's *History of British Birds*, which were prepared under his supervision, although very inferior in execution, show the rotation from right to left. The

later work was produced after Seebohm's death, and Dr. R. B. Sharpe, who compiled the letterpress, was not an oologist. It would, however, be easy to settle the point definitely by examination of the eggs from which the figures were drawn in the British Museum, but the authorities have not only closed the egg galleries to the public but also refuse to issue permits to students to work there until further notice, so that the point cannot be definitely settled at present.—F.C.R.J.]

COCK PHEASANT KILLING CHICKS.

THE head keeper on an estate near St. Albans, one of the most persistent slayers of hawks that I know, recently told me that he had a number of coops in which he was rearing young pheasants, in a field which was bordered on one side by a spinney. None of the birds were touched, except those from one coop nearest the wood, where they dwindled from fourteen to eight. Acting on information from a countryman who had twice seen a cock Pheasant come out from the wood and pick up a chick, the keeper, after watching some time, saw the Pheasant come out and seize a chick, but before he was able to reach the wood he received the contents of the keeper's gun. I know the man well and am convinced that he is thoroughly reliable.

W. ROWAN.

[The depraved habit in this case was not necessarily for the sake of food, but Pheasants, though mainly vegetarian in their diet, will also take animal food. Instances have been recorded of their swallowing field voles, young vipers, glow-worms and lizards.—F.C.R.J.]

CUCKOO'S EGG IN GOLDCREST'S NEST.—Mr. E. L. Wood (*Zoologist* 1916, p. 275) states that on June 10th, 1916, he found a Cuckoo's egg in a nest of Golderest (*Regulus r. anglorum*) which was still unfinished and lacked the lining. The egg was partly embedded in the nest material. The only previous record of this foster-parent of the Cuckoo from the British Isles is Mr. H. S. Davenport's account of a young Cuckoo which was actually reared in his garden at Dumnov, Essex, by a pair of Golderests (*cf. Field*, June 3rd, 1911; *British Birds*, V., pp. 58 and 84.)

REVIEW.

A Bibliography of British Ornithology from the Earliest Times to the end of 1912. By W. H. Mullens, M.A., LL.M., F.L.S., M.B.O.U., and H. Kirke Swann. Parts I. and II., pp. 1-240. London: Macmillan & Co., 1916. Price 6s. net per part.

THIS valuable work furnishes us with a fairly complete list of all the more important books and papers on British Ornithology up to 1912. As Dr. Elliot Coues's well-known *Fourth Instalment of Ornithological Bibliography* only gave us somewhat similar information up to 1880, it is obvious that some work of the kind has long been needed.

In comparing the two books it must be remembered that they are compiled on different principles. Dr. Coues's work was arranged in strictly chronological order, but the writers in each year were arranged in alphabetical order. In the present book, the works of each author are given under one head, and the names are alphabetically arranged. While Dr. Coues included short notes, Messrs. Mullens and Swann have been obliged to restrict their references to notes in Journals which exceed a page in length, and only include such authors as have published some separate work, or a complete section of one. We are, however, promised, as a Supplement, a geographical Bibliography, in which the matter will be arranged under separate counties—a work which has hitherto only been attempted in certain districts, and should prove of great value to students of faunal areas. Another feature of the present work is the series of biographical notes on each author, which must have necessitated an enormous amount of research, but while they undoubtedly add to the completeness of the book, many of the writers have no claim whatever to be regarded as ornithologists.

Each plan has its advantages and drawbacks. It is possible to contribute short notes of real value to ornithological journals for a long term of years and yet never to earn the right to a place in the present work.* On the other hand, we notice that one name is included on the strength of a

* An exception has been made to this rule in the case of John Gatcombe, who contributed notes of a most valuable nature to the *Naturalist* and *Zoologist* from 1851 to 1887, but the information is given in the article on Mr. W. S. M. D'Urban. We think that John Joseph Briggs, the founder of the *Naturalist* column in the *Field*, and a regular contributor to the *Zoologist* from 1843 to his death, might also have been included, if only on account of a pamphlet of some 70 pages published by him in 1869, entitled, "The Peacock at Rowsley," which contains a good deal of ornithological matter.

pamphlet of four pages, published posthumously and well known to be a forgery! In this case the bibliographical notes extend to twenty-nine lines (pp. 44-45), while the late R. M. Barrington is dismissed with a ten-line notice. We should have been tempted to deal more briefly with the writers of such works as "The Bird and Insects' Post Office," and many of the topographical works quoted contain nothing of the slightest value or interest ornithologically. It may, however, fairly be urged that it is not possible to discriminate, and that in order to make the work as complete as possible, it is necessary to include all.

A more important point is the accuracy of the citations, and the omissions which must necessarily occur in a work of this kind, however carefully compiled. By way of testing these points we have taken the article on John Cordeaux, which extends to some three pages, with the following result.

"Ornithological Notes from N. Lincolnshire," published in the *Zoologist* for 1884 (pp. 184-186) and 1888 (pp. 59-63) are omitted, as are also papers entitled "Field Notes from N. Lincolnshire in Spring 1888" (*Zool.* 1888, pp. 241-47), and "Notes on the Occurrence of Pallas's Sand Grouse in Lincolnshire" (*tom. cit.*, pp. 419-423). No reference is given to a paper on "Rare British Birds in the Humber District" (*op. cit.* 1895, p. 56-59), supplementary to an article on the same subject in 1891. "Spring Migration in the Humber District" (*op. cit.* 1891, p. 409-15) is also omitted, as well as a paper "On the Migration of the Yellow Wagtail" (*op. cit.* 1892, p. 389-91). The "President's Address to the Yorks. Nat. Union" (1897) is wrongly attributed to the *Zoologist* of that year. On p. 144, line 13 from below, 5031 should be 5061, and on p. 146, line 11 from above, for 207 read 204. It is rather questionable whether the article on Heligoland (*Nat.* 1888, pp. 1-12) should have been included.

The following omissions and errata have also been noted by us in reading through the first two parts. A pamphlet by Dr. Adams, Banehory, and Dr. A. L. Adams, "*On Ornithology as a Branch of Liberal Education*," etc. (Aberdeen, 1859, pp. viii., 36) contains an annotated List of Birds from Kincardine. A third (abridged) edition of Ansted's *The Channel Islands* was published in 1893, but the list of birds is omitted, and there are only brief notes on birds (pp. 192-194). Mr. J. W. W. Bund is the author of a paper on "A Nesting Place of *Larus fuscus*" (*Zool.* 1889, pp. 131-133). J. H. Dickenson's "Sketch of the Zoology of Staffordshire," as far as it relates to Birds, was reprinted in the

Trans. of the North Staffs. Field Club, Vol. XXVII., pt. 2. pp. 5-7 (1893). The late F. Coburn published a pamphlet of 12 pp. on the "Ornithology of the City of Birmingham" (1895), as well as several articles in the *Zoologist* on ornithological subjects. We fail to find any reference to Mr. Warde Fowler's little book on *Kingham Old and New*, which contains a chapter on the Bird-life of the district. For "Magdalen" read "Magdalene" (p. 234, line 14 from above). Mr. B. A. Carter we take to be Miss B. A. Carter (p. 121). Mr. R. W. Chase's home is now at Bewdley and not at King's Norton. Mr. R. Drane gave a good account of the bird-life on Skomer, under the curious title of "A Pilgrimage to Golgotha" (*Rep. and Trans. of the Cardiff Nat. Soc.*, XXXI., 1898-99). The list of birds in Stephen Glover's *History of the County of Derby* is not the work of that writer, but was founded on Pilkington's list, with additional notes by O. Jewett.

The strongest point in this book is the care and scrupulous detail with which the older writers have been treated. Here Mr. Mullens is in his element, and his work stands without a rival. Our readers will not have forgotten the series of exhaustive articles on the works of the early British Ornithologists, which have appeared in previous volumes of this journal. We note with pleasure that the authors propose to incorporate any additional information which may come to hand during the process of publication, in a Supplement, and congratulate the authors on the successful beginning of a task of enormous difficulty.

F. C. R. JOURDAIN.

LETTER.

ON INCUBATION.

To the Editors of BRITISH BIRDS.

SIRS,—In Mr. J. H. Owen's second article on the Sparrow-Hawk (*antea*, p. 26) he states that, if the hen is not incubating she will "almost always be on the nest, not covering the eggs but sitting beside them." This guarding of the eggs without incubating them is undoubtedly uncommon, but occurs in some other Raptores. In the case of the nearly-related Cooper's Hawk of North America, Mr. W. De W. Miller of the American Museum of Natural History, New York, informs me that incubation does not commence with the first egg (in many cases at all events), but that the bird is always at hand to protect them.

With regard to the incubating habits of the Jackdaw (*antea*, p. 40) I have not my notes by me, but it is certainly usual for this species to commence to sit as soon as the first egg has been laid. Mr. Owen says, "some sets were all fresh"; but if the clutch had just been completed the embryo would not be visible in the eggs first laid, even though incubation had commenced with the first egg. The formation of a small nucleus on the yolk being all that occurs in the first five days of incubation in many species, this easily escapes observation.

ERIC B. DUNLOP.



J A Hawick Brown

Born August 27th, 1844. Died July 26th, 1916.

BRITISH BIRDS

EDITED BY H. F. WITHERBY, F.Z.S., M.B.O.U.

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JOHN ALEXANDER HARVIE-BROWN.

(PLATE 1.)

THE death of Dr. Harvie-Brown will cause a vacancy in the ranks of Scottish naturalists which it will be difficult, if not impossible to fill. Few Scotsmen knew their native land better than he, and none have ever before acquired such an extensive knowledge of its Vertebrate Fauna.

John Alexander Harvie-Brown was born on August 27th, 1844. He was the only son of John Harvie-Brown, of Quarter and Shirgarton, who assumed the name Brown by the will of John Brown of Quarter, and Elizabeth Spottiswoode, his wife, the daughter and heiress of Thomas Spottiswoode of Dunipace. He was educated at Merchiston Castle, and Edinburgh and Cambridge Universities. As a youth he was a good football and cricket player, but from his earliest days he was most remarkable for his enthusiasm in collecting birds and birds' eggs, and he used to delight in telling how a light-house keeper had happily interpreted his initials as "John Always Hunting Birds." He never married and never followed a profession, but devoted his life to natural history and he was also fond of shooting and fishing. As a comparatively young man he made several ornithological visits to Norway, Russia, Finland and Transylvania, and perhaps his most important expedition was that to the lower reaches of the River Petchora with Henry Seebohm in the summer of 1875, when, amongst other achievements, the eggs of the Grey Plover and the Little Stint were discovered. He had a unique knowledge of the islands off the Scottish coast, as for some years he made it a practice each summer to cruise among them in his yacht the "Shiantelle." The Hebrides, Orkneys, Shetlands, and the Faroes were all explored by him in this way, and even lonely Rockall was visited in the Irish Fisheries'

steamer. During all these years he was amassing a magnificent collection of eggs and birds' skins, which was the result of the joint efforts of himself and his friend H. W. Feilden, who, being in the Army, and therefore constantly on the move, was only too glad that it might be housed at Dunipace. A fire, however, in January 1897, almost totally destroyed their collection, which may well be regarded as unreplaceable. With advancing years he grew less and less active and gradually settled down to a stay-at-home life as laird of Dunipace. For a number of years he was chairman of Dunipace School Board and was also a member of its Parish Council.

Until two or three years ago he was still able to enjoy a certain amount of shooting and fishing, but his stoutness increased to a veritable infirmity (shortly before his death he weighed as much as twenty-seven stone) and latterly he was scarcely able to leave his armchair. His mind, however, remained active and he was a great talker, possessing a fund of anecdote, while to the end he delighted in carrying on a voluminous correspondence with anyone who was interested in ornithology. He was the staunchest of Tories, and he resented any innovation, either in politics or in ornithological nomenclature, as keenly as did his old Cambridge friend Alfred Newton.

His death was not apprehended; he had been unwell for a few days but had been pronounced decidedly better, so that he passed away unexpectedly at 10.30 a.m. on July 26th, 1916. Three days later he was buried in Dunipace Old Cemetery, which stands between the two hills (Duni pacis, the Knolles of Peace, as they have been termed) right in front of the house which had for so many years been his happy and busy home.

A list of Harvie-Brown's published writings is given in the Royal Society's Catalogue of scientific publications, and a bibliography of his works was privately printed [N.D.] in one vol., 4to, pp. 34. In Messrs. Mullens and Kirke-Swan's recently published *Bibliography of British*

Ornithology some eighty-two items are credited to him. Altogether, his contributions to scientific literature amount to close on 250, if we include articles in periodicals such as *The Zoologist* (in which his first note appeared in 1862), *The Proceedings of the Physical Society of Edinburgh*, *The Transactions of the Natural History Society of Glasgow*, *The Ibis*, etc. in addition to his books. Of these latter, his series of volumes on the *Vertebrate Fauna* of certain areas in Scotland are perhaps the most monumental, and though in several of these he was assisted by his friend T. E. Buckley, and later by others, it must be remembered that he was the originator and mainstay of this series of publications. His *Capercaillie in Scotland* is the standard work on the subject and is very typical of the author's style and erudition. With John Cordeaux he shares the credit of initiating the enquiry undertaken in 1879 by a committee of which he was a member, representing the east coast of Scotland, of the British Association to investigate the phenomena of bird migration as observed at lighthouses and light-ships. He was also the founder, owner, and joint editor of *The Annals of Scottish Natural History* till it became *The Scottish Naturalist*, when he eagerly lent this new publication his best services. The results of his ornithological experiences on the Continent were duly chronicled in the *Ibis*, and he published, in 1905, his *Travels of a Naturalist in Northern Europe*. His systematic use of [square brackets] for doubtful records cannot be claimed as an innovation, but their use certainly forms a characteristic feature of his *Vertebrate Faunas*; he was tremendously keen on the utility and significance of these symbols, and his constant practice as to their use might well be universally adopted as a recognized custom.

Harvie-Brown was a Justice of the Peace for Stirlingshire, he was also a Fellow of the Zoological Societies of London and of Scotland, a Fellow of the Royal Society of Edinburgh, one of the oldest Members (at the time of his death) of the British Ornithologists' Union. and

he regarded it as a great compliment that he should have been elected an Honorary Life Member of the American Ornithologists' Union. In 1912, the University of Aberdeen, in recognition of his services to Natural History, particularly as regards Scotland, conferred on him the honorary degree of LL.D.

It is satisfactory to know that he bequeathed to the Royal Scottish Museum, Edinburgh, his splendid collection of books, pamphlets and manuscripts relating to Natural History and to the Topography of Scotland, as well as the remnant of his natural history specimens which escaped the disastrous fire of 1897 and such specimens as he had since acquired. It is far better that such a magnificent library should not be dispersed under the auctioneer's hammer, but should be handed over to the National Museum, where it will be available for the use of students for all time and will for ever keep alive the memory of one of Scotland's most distinguished naturalists.

H.S.G.

SOME BREEDING-HABITS OF THE
SPARROW-HAWK.

(5) GENERAL HABITS.

BY

J. H. OWEN.

By the time the young are ready to leave the nest, unless the weather has been wet or very windy, down again accumulates on the nest and in its neighbourhood. This time the down is from the young and not from the old bird.

The ways of the young when once they have left the nest become more and more difficult to follow. At first they return for meals to the nest, but this habit gradually ceases and other old nests are used. I have seen as many as seven Wood-Pigeons' nests used in one tiny copse. I think that the old birds seldom bring food for more than three weeks after the young have left the nest. Then the young have to find it for themselves, and so far as my observations go, the old give them very little, if any, training. The young hen birds seem to hang about the rides of the woods, and it is at this stage that they do most harm to game and chicken rearers. They cannot hunt properly yet, and find Pheasants in the rides an easy prey and will kill birds larger and much heavier than themselves. If disturbed they will return to the kill and can thus be easily trapped, but because a hawk is trapped by a Pheasant found dead, it does not follow that the hawk has killed it; for they will sometimes eat carrion. The young cocks, on the other hand, seem more often to leave the wood and select an area, usually intersected by large hedges and with running water, that can be worked easily from a small bunch of trees as headquarters.

In October, there seems to be considerable movement and migration. Afterwards one sees in the breeding

wood and district round it only the pair that bred there and often only a single bird. These return to the nest wood at night to roost. They come in pretty late and swish through once at a terrific pace, making a wild



Fig. 1. SPARROW-HAWK.

The hen takes up a position near the nest from which she watches after the brooding period is over.

(*Photographed by J. H. Owen.*)

call or shriek and then come in absolutely silently the second time. At this time of year they usually devour their prey where they kill it, but sometimes carry it to a low stump or mound in the wood and tear it up there. The usual catch is along the side of a fence and a collection of feathers on the ground by a fence is usually the sign that a Sparrow-Hawk has fed there. It is a

certainly if part of the skull is left. At times too, even in winter, they use old Pigeons' nests to feed on. Sometimes they construct very flimsy platforms late in December or early in January. These are quite flat and one can usually see through them easily from the ground. They are supposed to be used as dining-tables, but I feel convinced that this is not their sole use, as some which I have watched in progress of building have never had a trace of a meal on them afterwards. On the other hand, I have seen many used as dining tables, and on others I have seen birds deposited, as if in a larder, and removed later, but not eaten there. This, of course, may be the work of stoats and not hawks. Neither are these platforms used for roosting.

In February and early March, and even later, there is again movement on the part of the Sparrow-Hawks and all the vacant woods round Felsted become occupied, either by strangers or by birds which return to the neighbourhood in which they were reared. It should be possible to throw some light upon this question by ringing all the young within a certain area, and inducing keepers and others to report all they kill.

When the Hawks have appropriated a wood in March they select a nesting site almost at once and begin to build; sometimes both birds do the building, but I believe that the hen often builds the nest unaided. The rule in this neighbourhood is for birds to build new nests each year, not using an old nest of any kind for a foundation. If the eggs are taken and the nest removed, the birds usually resort for a second laying to an old Hawk's nest, if there is one in the wood, and just tidy it up a little and reline it. I have, however, in such a case, known an entirely new nest to be built in a different tree. If the eggs are taken during the laying period, the bird often continues to lay in the same nest and she may even lay a second clutch if the first is taken after incubation has started. In 1916 I had a curious experience. One of the birds I was watching was a very

late layer, and I had to go up to the nest more than once before I saw an egg. Then a Jay sucked each egg as it was laid, leaving the empty shell on the nest. The Hawk just pushed this out of the nest, sometimes only on to the brim, and deposited another egg. At last I removed the shells; cleaned the nest up a little and took the fresh egg. Later on the Hawk laid four eggs



Fig. 2. SPARROW-HAWK.

The old hen feeding at the nest after the young have left.

(*Photographed by J. H. Owen.*)

and raised three young in this nest. This case is interesting in that it shows that sometimes this species leaves the neighbourhood of the nest for at any rate parts of the day while laying is in progress.

The clutch varies from four to seven, but the usual number is five or six. The eggs are laid every other day and invariably before noon. If the clutch is taken when the bird has finished laying or begun to sit, the second clutch is usually a smaller one. I have only

one note of a bird following a six with a six ; I have only twice known second sets contain five. Usually four, and often only three are laid. The fertility of the first set is at least 95 per cent. ; my notes bring it out at about 97. In the second sets more than 25 per cent. are as a rule infertile, while in one case three out of five eggs were infertile.

The incubation period is five weeks. This is based on a very considerable amount of careful watching and calculation ; at the same time, there is a variation in individual eggs of two days above and below this estimate. As eggs sometimes take as long as four days to hatch after they are chipped, this can easily be understood.

Elsewhere I have commented on the additions to the nest during the incubation and the nestling periods. In July 1916 I watched a hen arranging the twigs in the well of the nest, and generally shaking up the middle of the nest, a week after the young had left. The conclusion I arrived at was that the birds were continuing to roost on the nest, and probably this is the case for as long as the nest is used as a dining table.

I have also stated that the hen eats the egg-shells when the young hatch. This may be rather a rash generalization ; it is based on the fact that I have watched two broods hatch and the egg-shells were eaten in each case, for I saw them eaten. The bird places them on the rim of the well and then munches them up at leisure. One shell was blown over to the ground by a gust of wind ; perhaps this accounts for shells found sometimes just below nests. I have also found very fine fragments of egg-shell in the wells of other nests which we have not watched from a hut ; these cases support the eating theory. It was not until late in July 1916 that I got certain evidence that the egg-shells are sometimes carried away and dropped. Yet this may be the usual thing after all, and the eating of the egg-shells which I witnessed may have been one of the effects of the hut.

This year, 1916, I have examined fourteen nests and measured several; I append some of the measurements, as the variations in size, etc., may interest others.

DETAILS OF SOME NESTS EXAMINED IN 1916.

	Tree.	Measurements in Inches.	Material.	Remarks.
1.	Oak, against bole.	Outside 14×13 , depth $8\frac{1}{2}$. Cup 6×6 , depth 2.	Entirely new. All oak, lined with fine twigs and bits of oak bark.	5 eggs; first laying May 19.
2.	Oak, against bole.	Outside $20 \times 14\frac{1}{2}$ depth 12. Cup 9×7 , depth $2\frac{1}{4}$.	Entirely new. Chiefly oak, also lime, hazel and hornbeam; lined with fine twigs, oak bark and rotten oak wood.	5 eggs; first laying May 6.
3.	Hawthorn, about 12 feet from ground.	Outside $18 \times 15\frac{1}{2}$, depth 9. Cup $8 \times 6\frac{1}{4}$, depth $2\frac{1}{4}$.	Mostly new or old Wood - Pigeon's nest. Oak with a few lime twigs and old dead briar; lined with fine twigs and a great deal of oak bark.	Second nest of No. 2 May 30.
4.	Spruce, a yard from trunk on thin branch.	Outside 20×18 , depth $8\frac{1}{2}$. Cup 7×7 , depth $1\frac{1}{4}$.	Entirely new. Mostly Scotch and spruce; some larch; lined with fine twigs and bark of Scotch fir.	5 eggs; first laying May 7.
5.	Scotch fir, against bole.	Outside 19×15 , depth $7\frac{1}{4}$. Cup 9×8 , depth $2\frac{3}{4}$.	Entirely new. Larch, lined with fine twigs of larch and slabs of outer bark of Scotch fir.	5 eggs; May 7.
6.	Oak, against bole.	Outside $18 \times 17\frac{1}{2}$, depth 6. Cup $6\frac{1}{2} \times 5\frac{3}{4}$, depth $2\frac{3}{4}$.	Entirely new. All oak, lined with small oak twigs and bits of oak bark.	4 eggs; second nest; May 27.
7.	Oak, where tree divided into three limbs.	Outside 21×10 , depth 13. Cup $7 \times 6\frac{1}{2}$, depth $2\frac{3}{4}$.	Entirely new. Very thick oak twigs on outside, becoming smaller towards middle; lined with fine oak twigs, oak bark and a few leaves.	5 eggs; second nest; July 26. This nest was built in March and deserted, and another nest made. That was robbed and the birds returned to this nest. Started to hatch July 24.

No account of the Sparrow-Hawk would be complete without some mention of the spring evolutions. These begin as early as mid-March and may be seen performed.

by both birds or the cock, as late as mid-May. It is possible, but improbable, that they are not performed by every pair of birds. It is extraordinary how few people have seen these flights. They take place both in the early morning about sunrise and in the evening about sunset, the earlier display being more prolonged. They are exceptionally interesting because the move-



Fig. 3. SPARROW-HAWK.

The hen preening her tail.

(Photographed by J. H. Owen.)

ments are diametrically opposed to the usual movements of Sparrow-Hawks. Ordinarily the Sparrow-Hawk flies low, never mounting and at a very good pace; in these evolutions the movements are slow and often conducted at a great altitude. The hawks rise above the nest-wood and fly to and fro, the length of it, sometimes along one side and back along the other. They maintain a horizontal course from end to end and rise at a very steep gradient at each turn. The movement of the wings is slow and measured and first one bird leads and

then the other. Occasionally, as they overtake one another, they seem to squabble and the pace increases for a short distance. They sometimes attain a tremendous altitude and then suddenly break off the movements and separate. At other times, after reaching a considerable height, they will suddenly descend like plummets to the wood and shortly afterwards resume the curious flight.



Fig. 4. SPARROW-HAWK.*

The hen stretching a wing and the tail to their fullest extent.

[(*Photographed by J. H. Owen.*)]

It is strange that, so far as I can tell, no notice is taken of the wind, but the flights follow the length of the wood, in a narrow wood at any rate. The slow, measured wing-beats resemble the evening flight of the Jackdaw more than that of any other bird. The note used is generally the sibilant whistle. I have also seen such flights, sometimes across open ground, performed by single birds in late summer and early autumn.

Later on, as the time for laying approaches, the cock alone does these flights, while the hen remains perched

on some branch, which is not ordinarily used again for the same purpose. His movements are the same as those described above, and two or three times he descends to the hen at a terrific pace and then shortly resumes his flight. These must be courting displays. When the time for treading comes, he uses the same flight and



Fig. 5. SPARROW-HAWK.

A one wing stretch.

(Photographed by J. H. Owen.)

descends with a terrific swish straight to the hen without preliminary perching first. This is done on a branch, but it may occasionally occur actually on the nest, for I have seen a scuffle between the birds on the nest, but not well enough to be absolutely certain.

It is said that the Sparrow-Hawk never soars, but this is not true, although soaring is unusual and rare. In my experience the only true soaring is done when a

Sparrow-Hawk and Kestrel are playing; then both birds genuinely soar up to a tremendous height, first one and then the other getting uppermost. Now and then the Sparrow-Hawk makes a short dash at the Kestrel, which, however, easily evades the rush by a quick upward movement and the soaring continues in slow spirals. These occasions seem to be very rare, and I do not know what the climax is, as the birds have gone out of view, or some other misfortune has happened to prevent my seeing it.

It is my hope sometime to recast these notes in book form, and I shall be very grateful for candid criticism and help on points where my observations are faulty or deficient. I consider that the only way to get really accurate observations at the nest would be to construct an observation hut at least thirty feet from a nest, and watch proceedings with a powerful glass. It may be that on some future occasion I shall find a nest where such a proceeding is possible.

NOTES

PROBABLE NESTING OF LESSER REDPOLL IN MONMOUTHSHIRE.

ON July 19th, 1916, I noticed a pair of Lesser Redpolls (*Carduelis linaria cabaret*) repeatedly alighting on a tree growing in some public gardens at Newport, Monmouthshire. I observed the birds about the same spot on several subsequent occasions, and their actions left little doubt in my mind that they were carrying food to young probably still in the nest. This, however, I could not see from the ground beneath the tree, which I was unable to climb. HOWARD BENTHAM

LESSER REDPOLL BREEDING IN HERTFORDSHIRE.

Two nests of the Lesser Redpoll (*Carduelis l. cabaret*) were found this year in the same garden at Letchworth, one in June in a hawthorn hedge, and the other in August in a Dorothy Perkins rose. The nests and birds were both seen by me and the young flew in each case. This is, I believe, the first authentic record for north Hertfordshire.

W. P. WESTELL.

[In the *Victoria History of Hertfordshire*, Mr. Crossman states (I., p. 202) that the Lesser Redpoll's nest has been found at Newsells Park (Barkway), which is in the north of the county.—EDS.]

CROSSBILLS IN CO. ANTRIM.

ON July 27th, 1916, I watched some Crossbills (*Loxia curvirostra*) on a Scotch fir near Fernhill, Belfast. During their short stay they seemed to haunt the same trees most of the time, and when they left for good went in a north-easterly direction. Although I saw three different flocks they all appeared to come from the same place and to go away in the same direction, and even to alight on the same trees although there are plenty of firs here. They did not leave for any lack of food as there were many trees that they had not touched.

J. CUNNINGHAM.

TITS IN NESTING-BOXES ATTACKED BY WEASEL AND EVICTED BY WRYNECKS.

ON July 3rd, 1916, I found a weasel in a nesting-box containing a Great Tit's nest with young. I killed the weasel

by pouring strong ammonia through the hole, which was $1\frac{1}{4}$ inches in diameter. For fourteen years in my garden in Surrey I have had Wrynecks nesting in my boxes. This year they would not settle on a box and turned out as many as seven Tits—Great, Blue, and Coal. How the Wrynecks get the 'Tits' eggs out of the boxes I do not know, but I always find some unbroken. One year two hen Wrynecks were laying in one box and each morning I found the second bird's egg unbroken on the ground below the box.

A. PATTESON.

BEARDED TITMOUSE IN BERKSHIRE.

MR. E. BLATCH, of Theale, tells me that he saw a Bearded Titmouse (*Panurus biarmicus*) on the Kennett on August 30th, 1916, being first attracted to it by its note, which he at once recognized. He eventually watched it for some time at four or five yards distance on some reeds growing in the river. He saw two other birds which he thinks were the same species, but was not near enough to be certain. He is quite familiar with the bird in Norfolk. I accompanied him to the spot three days later, but it was a very windy day and unfavourable for observation, and there are large dense "rod beds" close to the tall reeds on which the bird was seen.

The last record of this species in Berkshire appears to be in 1814.

NORMAN H. JOY.

SPOTTED FLYCATCHERS BUILDING IN OLD NESTS OF OTHER BIRDS.

THIS summer at Redmarley, near Gloucester, I found a nest of a Spotted Flycatcher (*Muscicapa s. striata*) placed inside a typical nest of a Mistle-Thrush. The Mistle-Thrush's nest was indifferently supported about 10 feet out and upon the branch of a monkey-puzzle tree at a point where the branch divided into three. I was informed on quite credible evidence that the Mistle-Thrushes hatched out young in the nest earlier in the year. A second pair of Flycatchers laid respectively one, two, and two eggs in three nests of Swallows all in a row, about two feet apart, in an open shed. Each Swallow's nest had a typical (though somewhat scanty) Flycatcher's nest inside it and the nest at the right hand end was being sat upon by a parent bird, the other two being presumably deserted. All the eggs appeared to be fresh.

W. MAITLAND CONGREVE.

MARSH-WARBLED OBSERVED IN STAFFORDSHIRE.

As the Marsh-Warbler (*Acrocephalus palustris*) has not previously been recorded further north than Worcestershire and Warwickshire, in the breeding season, it may be of interest to record that on May 28th, 1916, I saw and heard one when passing an osier bed overgrown with meadow-sweet, nettles, cow-parsley and hemlock, which formed a dense undergrowth. On June 2nd I heard another bird singing in some rough ground overgrown with similar plants, and not far from a willow plantation, about a mile from where the first bird was seen.

This bird apparently stayed about a fortnight, after which I never saw or heard it again. As I never saw more than the one bird, I am inclined to think that it failed to find a mate.

The other bird continued to sing till June 19th, after which I only heard occasional notes, but though I did not actually find the nest, I have little doubt that there were two birds and that they were breeding.

Both localities were in south Staffordshire, not more than a mile or two from the Worcester border, but at least thirty miles, "as the Crow flies," from the district where I met with this species breeding in considerable numbers in 1909 and 1911 (*British Birds*, III., p. 157 and V., p. 106). On these occasions I was unable to watch them through the breeding time, so that it was somewhat disappointing to find the song cease so soon. In conclusion I may add that in this locality Sedge-Warblers were moderately common and a few pairs of Reed-Warblers were also present. W. DAVIES.

LATE NESTING OF REED-WARBLED.

On page 20 of this volume I recorded an exceptionally early nest of the Reed-Warbler near Tring. Near the place where it was found, a keeper, when cutting some reeds, came across a nest with three (? or four) hard-set eggs on August 18th ! Unfortunately the nest was not seen until he had cut it down and the eggs fell out and were broken. E. HARTERT.

[Dr. N. F. Ticehurst has recorded several clutches of fresh eggs on August 6th, 1904 (*Birds of Kent*, p. 56).—EDS.].

THE REELING OF THE GRASSHOPPER-WARBLED.

In reference to the notes on the reeling of the Grasshopper-Warbler (*antea*, pp. 70 and 94), I should be interested to know how the sound is produced—*i.e.*, whether in inspiration

or in expiration or in both. Last summer Mr. W. Farren and I watched a male reeling at very close quarters on Wicken Fen and timed him with a watch. Regularly at every fifteen seconds there was a slight but appreciable break in the song, but it was so small as to be scarcely noticeable at a distance.

Mr. W. H. Hudson writes of the song as lasting about forty seconds, but after the observation above I do not think it lasts more than a third of this time. Later on I was able to time a Nightjar when churring at close quarters, and can state positively that in almost every case there was a pause at the end of five seconds and in no case did the song last longer than nine seconds. The break was so extremely short that it can hardly have served either for complete inspiration or complete expiration, and yet as each bout of song with both birds lasted for sometimes as long as fifty or sixty seconds, it would be rather a remarkable respiratory feat if, to speak in popular terms, "the breath was held" all that time. I have timed the dive of such species as the Cormorant, Coot and Little Grebe, and the normal period of submersion when feeding is not longer than twenty to thirty seconds. I should like to know whether the thoracic and abdominal air-sacs are brought into play, and if so, does the very slight break mentioned above denote expiration or inspiration of a *part* of the tidal air of the lungs; for it is so short that I cannot think that it represents inspiration or expiration of all, even of the tidal air.

MAUD D. HAVILAND.

BLACKBIRDS BREEDING THREE AND FOUR TIMES IN THE SAME NEST.

WITH reference to the statement on page 95 that the Blackbird has been known to use the same nest for three broods, it may be of interest to record that, in my garden near Lancaster this year, a pair of Blackbirds have reared two broods in the same nest in which two broods were reared last year. Whether the nest was used by the same pair of birds, I cannot say, but no additions or repairs were made to it this year.

H. W. ROBINSON.

IN 1914 a pair of Blackbirds reared three broods in one nest at Letchworth. Moreover, the male Blackbird busily occupied himself feeding, as well as his own family, some young Robins in a nest a few feet away from his own nest and within seeing distance of the sitting female Blackbird.

W. PERCIVAL WESTELL.

SAND-MARTINS ROOSTING IN TREES.

WHILST crossing over the high ground near Cotton in north Staffordshire on the evening of September 3rd, 1916, at dusk, I saw about twenty Sand-Martins (*Riparia r. riparia*) suddenly drop into the top of a tree apparently with the intention of roosting, had they not been disturbed. On my approach, however, they rose and alighted in a thick little spinney near by, where in all probability they passed the night.

The weather was rather unsettled at the time and doubtless the birds were on migration. T. SMITH.

LITTLE OWL BREEDING IN WILTSHIRE.

WITH reference to the record in Vol. IX., p. 210, of the Little Owl (*Athene n. noctua*) having been seen at Lydiard Park in October, 1915, I can now add that the bird was seen there all that winter, while in July of this year the keeper saw three young ones being fed by an old bird. He has seen the birds several times since, and I have also seen two young ones. D. PERCY HARRISON.

LITTLE OWL IN STAFFORDSHIRE.

ON April 10th, 1916, when passing through Little Aston Park, Staffordshire; I observed in one of the trees a Little Owl (*Athene n. noctua*). From its behaviour it appeared not unlikely to be breeding. Records of the occurrence of this Owl in Staffordshire being few, I thought this worth reporting.

W. DAVIES.

[Cf. B.B., IX., p. 250, for previous records—EDS.].

COMMON SCOTERS IN CHESHIRE IN SUMMER.

ON July 20th, 1916, I saw seven adult Common Scoters (*Oidemia n. nigra*)—six males and a female—on Marbury Mere, near Northwich, while I was told a few days later by the gamekeeper at Oakmere, Cheshire, that about the middle of the month he saw "about a score" of black ducks on that water, which he took to be Scoters. I have frequently seen this species at other seasons on both meres, but my only previous record of its occurrence in summer was in 1913 (cf. Vol. VII., page 173).

J. MOORE.

CORMORANTS NESTING IN NORFOLK.

A PAIR of Cormorants (*Phalacrocorax c. carbo*) have nested this year in my covert in the Feltwell fen. It is quite a narrow belt which runs down into the area that was flooded

by the bursting of the river bank. The Cormorants took possession of an old Heron's nest on a low spruce tree. My son found the nest at the beginning of September and there were four young ones nearly fit to fly. He had seen five Cormorants flying about some time previously, which looks as if the present inhabitants of the nest were a second brood. After being flooded for months about half the covert was blown down by a gale in June, so it is almost impossible to get through it.

H. M. UPCHER.

EARLY MOVEMENTS OF WADERS ON THE LANCASHIRE COAST.

With reference to the note on this subject (*antea*, p. 96), I might say that I have often seen Knots on this coast on August 1st and 2nd and also shot them, the flocks sometimes being large ones. Most of them were in immature plumage, but the few adults have all been in full winter plumage, with no trace of the full red summer plumage as stated by your correspondent to be still complete in the case of those seen by him.

H. W. ROBINSON.

QUAIL IN BERKSHIRE.

As the Quail (*Coturnix c. coturnix*) has become rare of late years in Berkshire, it may be worth recording that on the evening of July 3rd, 1916, I heard the unmistakeable note of this species at brief intervals for over half an hour in the cornfields near my house at Appleton. It was calling again the following evening, and for several days subsequently, but then ceased.

F. C. R. JOURDAIN.

BIRDS IN NORFOLK IN 1915.—In Mr. J. H. Gurney's usual annual report on ornithological events in Norfolk for 1915 (*Zool.*, pp. 201-9 and 260-6) we note the following:—A Ferruginous Duck (*Nyroca nyroca*) was seen on one of the protected broads from April 12th to the end of the month, while two were seen at the same place on July 14th; a Little Owl (*Athene n. noctua*) is noted as breeding at Great Melton; a Ruddy Sheld-Duck (*Casarca ferruginea*) was shot near Yarmouth on November 8th, and another on the 16th; a Dipper "not showing any tinge of chestnut" was shown to Mr. Gurney by Mr. Saunders, the taxidermist, who had received it from Potter-Heigham on November 10th—this was almost certainly an example of *Cinclus c. cinclus*; a Garganey (*Anas querquedula*) shot at Martham on December 9th is an interesting winter occurrence.

CROSSBILLS BREEDING IN CO. TIPPERARY.—In the course of an article on the Crossbill in co. Tipperary (*Irish Nat.*, 1916, pp. 69-72) Mr. C. J. Carroll states that during the "invasion" of 1909 these birds appeared in the Galtee Mountains and nested there the following year and have done so ever since.

TREE-PIPIT OFF CO. WEXFORD.—Prof. Patten discusses (*Irish Nat.*, 1916, pp. 85-93) at great length the remains of a Tree-Pipit (*Anthus trivialis*) found on the Tuskar Rock on October 16th, 1915, and gives many details of the wings, but omits to mention the essential difference between the wings of the Tree-Pipit and Meadow-Pipit, viz., the comparatively shorter fifth primary in the Tree-Pipit.

BLACK-EARED WHEATEAR IN IRELAND.—Prof. C. J. Patten announces (*Irish Nat.*, 1916, p. 100) that a Black-eared Wheatear (*Oenanthe hispanica*), whether of the Eastern or Western race he has not yet determined, was obtained on Tuskar Rock, co. Wexford, on May 16th, 1916. The bird is new to Ireland.

BREEDING OF HOOPOE IN BUCKS.—*The Selborne Magazine*, 1916, p. 93, contains a letter from Mr. C. E. J. Hannett, in which it is stated that a pair of Hoopoes (*Upupa e. epops*) nested near Taplow in 1916. They were noticed by Mr. and Mrs. W. R. Dunstan frequently in a rather secluded garden, and towards the end of the third week in May a single young bird was seen accompanying its parents. It was actually caught by Mr. Dunstan, who describes it as about the size and weight of a good sized Thrush. The birds disappeared a few days prior to June 25th, but the two parents were again seen on the afternoon of July 5th.

SNOWY-OWL IN BUCKINGHAMSHIRE.—Mr. A. H. Cocks records (*Zool.* 1916, p. 313) that on July 31st, 1912, he saw an example of *Nyctea nyctea* at Hambleden. The bird was also seen by others on August 2nd, and again a few days later. Mr. Cocks suggests that having regard to the time of year it may have been an escaped bird, but he failed to hear of anyone who had lost one.

COURTSHIP OF BUFFLE-HEADED DUCK.—In the course of an interesting article on the courtship habits of certain ducks (*Auk*, 1916, pp. 9-17) Dr. C. W. Townsend states of *Bucephala albeola* that his observations do not bear out Mr. Millais's supposition that the courtship of this duck is similar to that of the Goldeneye. Dr. Townsend describes the actions of a

group of thirty-five to forty Buffel-headed Ducks with sexes about equally divided as follows :—

“Suddenly a male swims vigorously at another with flapping wings, making the water boil, and soon each male is ardently courting. He spreads and cocks his tail, puffs out the feathers of his head and cheeks, extends his bill straight out in front close to the water and every now and then throws it back with a bob in a sort of reversed bow. All the time he swims rapidly, and, whereas in feeding the group were all swimming the same way in an orderly manner, the drakes are now nervously swimming back and forth, and in and out through the crowd. Every now and then there is a commotion in the water as one or more drakes dive with a splashing of water only to come up again in pursuit or retreat. As the excitement grows a drake flaps his wings frequently and then jumps from the water and flies low with outstretched neck towards a duck who has listlessly straggled from the group. He alights beside her precipitately, sliding along on his tail, his breast and head elevated to their utmost extent and held erect. He bobs nervously. And so it goes.”

INCREASE OF FULMAR PETREL IN CO. KERRY.—Mr. C. B. Moffat states (*Irish Nat.*, 1916, p. 156) that Mrs. Barrington informs him that Mr. MacGinley the lightkeeper at the Skelligs reported in April 1916 a still further increase in *Fulmarus g. glacialis* at the Great Skellig. The colony started in 1913 with eleven or twelve pairs, in 1914 there were about seventy birds, and in 1915 about one hundred. Now Mr. MacGinley writes: “There are now three colonies of birds nesting, and if with each successive season they keep on increasing as they have been doing since they first visited the Skelligs, they will soon be as numerous as the Gannets.”

ERRATUM.—*Antea* p. 97, line 26, for “glow-worm” read “slow-worm.”

LETTERS.

BREEDING-HABITS OF SPARROW-HAWK.

To the Editors of BRITISH BIRDS.

SIRS,—With reference to Mr. Owen's account of the male Sparrow-Hawk giving food to the female when on the wing (*antea*, p. 56), it may interest you to know that for several consecutive years Sparrow-Hawks nested in a wood at Metcalfe Park, and I used to watch the parents bringing food to the nestlings. At first the male brought it, and, as Mr. Owen describes, it was taken from him by the female, and in several instances I have seen the prey dropped by him and caught in the air by the second bird and conveyed to the nest. Later on, when the young were strong on the wing, both parents brought food, and when close to the nest the young would come out to meet them and the old birds in each instance let fall the prey, which was caught by the young whilst in the air; in no case did it fall very far, and I never saw the latter fail to catch it. I always considered that this was

the method of teaching the young the first elements of procuring their own food. This year, about a week ago, I watched the same performance.

HELEN M. RAIT KERR.

RATHMOYLE,

KING'S CO.,

August 7th, 1916.

DIRECTION OF MARKINGS ON TERNS' EGGS.

To the Editors of BRITISH BIRDS.

SIRS,—I was interested in reading Mr. W. Rowan's note (*supra* p. 96) on the twisted markings seen on some Terns' eggs. I found that those in my collection both Common Tern (*Sterna hirundo*) and Sandwich Tern (*Sterna s. sandvicensis*) had the twist shewing from right to left, and not as shewn in Seebohm's plates from left to right. Dresser, however in his *Eggs of the Birds of Europe*, has the twist fairly clearly shewn in one or two cases, always from right to left. The plates in this work were photographed direct from the specimens by a three-colour process which would shew the eggs in the correct position. The same thing may be noted in Kearton's *British Birds' Nests*, where the coloured figures are well reproduced by a similar process direct from the eggs.

The question, however, is, do all eggs rotate from *left to right* in their passage down the oviduct and if so how are the very distinct blotches and spots formed. In this connection I would draw the attention of those interested in the subject to a very comprehensive and well illustrated article by Dr. R. W. Shufeldt in *The Emu* for April 1916, Vol. XV., pp. 225-34. The title "Eggs of Reptiles and Birds compared" is rather misleading, as the article deals nearly altogether with the coloration of birds' eggs and speculation as to how the colour is applied. The following extract taken from the last paragraph, pp. 231 and 232, gives Dr. Shufeldt's summing up and I think throws some light on the beautiful marking of Terns' eggs.

"Now, in these eggs of the Australian Magpie we have both hair-line markings and spots on the same specimens; some of these may be sharp and others blurred, while there may likewise be massing of the different markings at the butt on the same egg. These may all be explained through what I have attempted to set forth in previous paragraphs of this article, as any egg passing down the oviduct (either butt or apex first) may sometimes be *at rest*; sometimes—either slowly or rapidly—advance without rotation, or various rotary movements may be imparted to it through the peristaltic and anti-peristaltic contractions of the walls of the oviduct—the pigmentary glands being functionally active all the time in those cases where pigment is being deposited."

LISMORE, BELFAST.

W. H. WORKMAN

September 8th, 1916.

BRITISH BIRDS

EDITED BY H. F. WITHERBY, F.Z.S., M.B.O.U.

ASSISTED BY

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THE MOULTS OF THE BRITISH PASSERES, WITH NOTES ON THE SEQUENCE OF THEIR PLUMAGES.

BY

H. F. WITHERBY.

PART VI.

(Continued from page 18).

TREE-PIBIT AND MEADOW-PIBIT *supra*, pp. 12-13 *correction*. Examination of further material shows that in the moult from the *Juvenile* to *First winter* the median and inner greater wing-coverts and three innermost secondaries are, at all events sometimes, moulted, and this may be the rule, although in the large series I previously examined none were moulting these parts. The central pair of tail-feathers are also occasionally moulted. It may be that the moult in the Red-throated Pipit is similar, but I have not seen any specimens showing moult in these parts.

FAMILY CETHIIDÆ.

The members of this family, belonging to two distinct genera, differ in their moults, in that the adult Tree-Creeper have but one moult in autumn, while the Wall-Creeper moults the body-feathers also in spring.

BRITISH TREE-CREEPER (*Certhia f. brittanica*).

ADULTS.—Complete moult from August to October. No moult in spring, and abrasion has no noticeable effect. There is no sexual difference.

JUVENILE.—Like the adults, but the upper-parts with larger pale centres to the feathers, giving it a more spotted appearance. The under-parts are duller and not so silvery as the adult.

FIRST WINTER.—The juvenile body-feathers, wing-coverts and innermost secondaries are moulted from August to October, but not the primary-coverts, tail-feathers, nor the rest of the wing-feathers. After this moult the bird is like the adult.

WALL-CREEPER (*Tichodroma muraria*).

ADULTS.—Complete moult in August or September, or even as late as November. In February or March there is

a moult involving the body plumage, but apparently not the wing-coverts, wing- or tail-feathers. The fore-head and crown greyish-brown in winter become french-grey, and the chin and throat, white in winter, become black in summer as well as the lores and most of the ear-coverts. There is no sexual difference.

JUVENILE.—Closely resembles the adults in winter plumage, but the fore-head and crown are not so brown, the chin and throat are smoke-grey tinged with brownish, while the breast and belly are not quite so dark a slate-grey as in the adults and have a brownish tinge.

FIRST WINTER.—The juvenile body-feathers are moulted from August to November, but apparently not the wing-coverts, wing- or tail-feathers. After this moult the bird becomes like the adult in winter.

FAMILY SITTIDÆ.

BRITISH NUTHATCH (*Sitta c. britannica*).

ADULTS.—Complete moult in August. No moult in spring. Abrasion causes the buff of the under-parts to become a little paler. The female has the chestnut of the flanks rather paler than the male, otherwise the sexes are alike.

JUVENILE.—Closely resembles the adult, but the upper-parts are duller and tinged with brownish, the stripe through the lores and eye is brown-black rather than black and the flanks and under tail-coverts are paler and duller, not bright chestnut as in the adult.

FIRST WINTER.—The juvenile body-feathers and lesser and median wing-coverts are moulted in July or August, but not the greater wing-coverts, primary-coverts nor the tail- or wing-feathers. After this moult the birds become like the adults.

FAMILY PARIDÆ.

The adults of this family all have a complete autumn moult, and no moult in spring. The effect of abrasion is not very marked, but the differences between fresh and worn plumage, though small, are distinct.

The differences in the sexes of the adults are well marked in *Regulus* and *Panurus*, in *Ægithalos* the sexes are alike, and in *Parus* I can find no sexual difference in the plumage of *P. palustris* and *P. atricapillus*, only very slight differences in *P. ater*, *P. cœruleus* and *P. cristatus* and rather more marked ones in *P. major*.

The juveniles are very distinct from the adults in *Regulus*, *Ægithalos* and *Panurus*, but not so much so in *Parus*, though

in all the species (except perhaps in *Parus atricapillus*) they have easily seen differences.

The moult from the juvenile to the first winter plumage in *Parus* and *Regulus* is usually confined to the body-feathers and wing-coverts, but extends to the innermost secondaries in some species of *Parus* and in *P. major* and *P. cœruleus* the central tail-feathers are also involved. In *Ægithalos* and *Panurus* the moult is complete.

The first winter plumage is usually like the adults, but in *Parus major* and *P. cœruleus* small differences are noticeable.

As I have already dealt in detail with the plumages of most of the British species of *Parus* and of *Ægithalos* in these pages (see Vol. IV., pp. 98-103), I need not detail them again.

BRITISH AND CONTINENTAL GOLDCRESTS (*Regulus r. anglorum* and *R. r. regulus*).

ADULTS.—Complete moult in August or September. No moult in spring.* There is very little change by abrasion. The sexes are alike except that in the female the centre of the crown is all lemon-yellow instead of the hind-part being burnished orange as in the male.

JUVENILE.—The chief difference in the juvenile is that it has no yellow or gold and scarcely any black on the crown, which is greyish-brown tinged green and mottled with black, especially on the sides where there are black lines in the adult. The rest of the upper-parts are browner than in the adult. The sexes are alike.

FIRST WINTER.—The juvenile body-feathers, median and lesser wing-coverts are moulted in July to September, but not the rest of the wing-coverts nor the tail- or wing-feathers. After this moult the birds become like the adults.

FIRE-CREST (*Regulus i. ignicapillus*).

The moults and differences in the adults are the same as in the Goldcrest. The juvenile is very similar to that of the Goldcrest, but has the lores and upper-part of the ear-coverts blackish, the mantle, scapulars and rump rather more green and the innermost secondaries without whitish tips.

* In the *Scottish Naturalist*, 1914, p. 247, the Misses L. J. Rintoul and E. V. Baxter state that they have examined three spring specimens "with new feathers coming on throat and crop." I have also seen a few examples in March and April with a feather or two growing here and there, but this is not unusual with many species which have no regular moult.

BEARDED TITMOUSE (*Panurus b. biarmicus*).

ADULTS.—Complete moult in autumn. No moult in spring and practically no change by abrasion. The adult female lacks the black moustachial stripes of the male though the feathers in this region are somewhat elongated, the crown of the female is yellowish-brown, often streaked with brownish-black instead of being grey as in the male, the mantle of the female is paler and less tawny and usually has some dark streaks, the under tail-coverts are buff instead of black, besides other smaller differences.

JUVENILE.—The mantle and back are black, and the rest of the upper-parts, as well as the under-parts, are paler and buffer than in the adult female, the central tail-feathers are pale buff and the rest largely black instead of tawny, the lesser coverts are pale buff instead of grey, and the wing-feathers have not nearly such bright edgings as in the adult. The first (bastard) primary is much broader and longer than in the adult. The sexes appear to be alike.

FIRST WINTER.—The juvenile plumage is completely moulted including the wings and tail in autumn, and after this the birds resemble the adults.

FAMILY LANIIDÆ.

The moults of the Shrikes on the British list are exceedingly puzzling, and so different that it seems inadvisable to summarize them. Those interested in the subject may consult the details given below, which are the result of a very careful examination of all the material I can find. Whether I have interpreted the moults correctly or not, other workers must decide, but in some cases, and especially in the Red-backed Shrike, it has been difficult to say exactly what takes place. Shrikes would seem to be in a transition stage with regard to their moults.

LESSER GREY SHRIKE (*Lanius minor*).

ADULTS.—Complete moult in autumn. In February and March (sometimes April) there is a moult confined, so far as I can discover, to the body-feathers. The male in winter has a few grey feathers mixed with the black of the fore-head, and the plumage is not so bright and clean looking as in summer. The female in winter has more grey on the fore-head than the male, the ear-coverts are browner, the upper-parts are duller, and the under-parts have less pink. After the spring moult the female becomes more like the male in winter.

JUVENILE.—Fore-head whitish, rest of upper-parts brown-grey (not blue-grey as adult) and the feathers barred with dark brown, the under-parts white to pale cream, with the flanks and under tail-coverts faintly barred, the wing-coverts tipped with buffish-white. Sexes apparently alike.

FIRST WINTER.—The juvenile body-feathers are moulted in autumn, but not the wing-coverts, wing- or tail-feathers, and frequently a number of juvenile body-feathers are retained. The male in first winter has only a few black feathers on the fore-head (sometimes none), is brownish-grey on the upper-parts, and has a creamy, instead of pinkish, tinge on the under-parts. The female is much the same, but has no black on the fore-head, and is browner grey on the upper-parts.

FIRST SUMMER.—In February and March a complete moult takes place, all the wing- and tail-feathers being involved instead of the body-feathers only as in the adult. After this moult the birds become indistinguishable from the adults, except that the male has a few grey feathers on the fore-head.

GREAT GREY SHRIKE (*Lanius e. excubitor*).

ADULTS.—Complete moult from September to November, the wing- and tail-feathers often commencing as early as July. From March to May (sometimes June) there is a moult confined to the body-feathers. In the male the winter and summer plumages are the same. In winter the female frequently has faint wavy brown bars on the breast, but many examples are indistinguishable from males. After the spring moult the bars on the breast are usually absent, or when present are very faint.

Juvenile.—Upper-parts grey washed with brown, the hind part of crown, nape, rump and upper tail-coverts usually with dark brown wavy bars, but these are sometimes absent, the under-parts are white washed brownish, with faint brown wavy bars on the breast and flanks, and fewer on the chin and throat, the innermost secondaries and greater coverts are tipped with brownish instead of white and the median coverts are dark brown with tips of greyish-brown speckled with dark brown, instead of all black as in the adult, the lesser coverts are greyish-brown speckled with dark brown instead of grey with black bases as in the adult. The sexes are alike.

FIRST WINTER.—The juvenile body-feathers, innermost secondaries, lesser and median wing-coverts and inner greater

coverts are moulted from August to December, but occasionally a good many juvenile body-feathers are retained until the spring moult. Except for the juvenile feathers retained the first winter bird is much like the adult, but both sexes have wavy brown bars on the breast though those on the female are stronger than those on the male.

FIRST SUMMER.—A moult takes place as in the adult, after which the birds become like the adults.

WOODCHAT SHRIKE (*Lanius s. senator*).

ADULTS.—Complete moult from August to December. There is no spring moult in the adult so far as I can discover. The female has a narrower black band across the fore-head and through the ear-coverts than the male, the mantle, wings and tail are brown instead of black, and a varying number of feathers of the upper-breast and flanks have dusky-black crescentic bars.

JUVENILE.—Upper-parts varying from greyish-white to rufous buff, each feather with a broad brown-black subterminal crescentic band, rump nearly uniform pale rufous-buff and upper tail-coverts more rufous; except for the centre of the belly and under tail-coverts the under-parts have dusky-black crescentic bands; the tail-feathers are brown with dark subterminal lines and have cream-colour instead of white tips and bases; the wing-feathers are also brown with wider and more buff edgings than the adults, the greater wing-coverts have most of the outer web rufous-buff, while the median and lesser coverts are much like the feathers of the upper-parts. The sexes are alike.

FIRST WINTER.—A varying number of the juvenile body-feathers, lesser and median wing-coverts are moulted from June to September, but a good many of the feathers of these parts are retained as well as the greater wing-coverts, primary-coverts and wing- and tail-feathers which are not moulted. The new feathers of the fore-head, crown and nape are rufous with black subterminal crescentic bands, of the mantle rufous-brown with faint dark crescentic bands, of the rump and upper tail-coverts buff with black crescentic bands. The first winter birds thus differ considerably from the adults in these new feathers besides the mixture of juvenile feathers retained and other smaller details not mentioned.

FIRST SUMMER.—The mixed plumage described above is completely moulted from November to March, except for the primary-coverts and frequently two or three primaries or secondaries. The new plumage is like that of the adults,

but occasionally males have a few feathers on the flanks with black crescentic bands, and females appear to have more of these feathers than adult females. In males the primary-coverts are distinctly brown as also are the unmoulted primaries and secondaries.

MASKED SHRIKE (*Lanius nubicus*).

ADULTS.—Complete moult from August to November and occasionally December. From January to March there is a moult confined to the body-feathers. The winter and summer plumages are the same except that abrasion of the white edgings and tips to the inner secondaries, wing-coverts and upper tail-coverts makes these parts more uniform black. The female differs from the male in having dark greyish-brown instead of black upper-parts, more creamy, not so pure white fore-head and scapulars, browner wings and tail, and less rusty-chestnut on the under-parts.

JUVENILE.—The upper-parts are brown, each feather having a blackish-brown crescentic band, scapulars whitish with similar bands; the under-parts are white closely barred with dark brown crescentic bands, but the chin and belly with few bands; the median and lesser coverts are like the mantle, while the greater coverts and innermost secondaries are dark brown mottled with pale brown and with pale buff edgings, the wings and tail are brown-black like those of the adult female. Sexes alike.

FIRST WINTER.—The juvenile body-feathers, inner secondaries, greater and median and lesser wing-coverts are moulted from June to October, but not the primary-coverts, tail, nor the rest of the wing-feathers. Frequently also a few outer greater coverts and some body-feathers are retained. The male in first winter is somewhat like the adult female, but the feathers of the fore-head have black crescentic bands and all the feathers of the upper-parts have longer rusty tips. The female in first winter has the fore-head speckled with brown.

FIRST SUMMER.—The body-plumage is moulted from January to April and except for the brownish wings and tail the male becomes like the adult male though a few first winter body-feathers are sometimes retained. The female, however, still has the fore-head slightly speckled and the mantle and crown are paler and with longer brown tips to the feathers than in the adult female.

RED-BACKED SHRIKE (*Lanius c. collurio*).

ADULTS.—So far as I can ascertain the adults have only one moult. The body-feathers often commence as early as July, but the wing- and tail-feathers and the rest of the body-feathers usually do not moult until December to February and the moult is sometimes not complete until March. I think this must be regarded as one moult, though it is interrupted and spread over a long period. The female has a browner and less grey crown and nape than the male and a browner and less chestnut mantle, the rump also is brown and the under-parts are white without any pink and with the breast, flanks and sides of throat marked with black-brown crescentic bands, the tail-feathers are brown with narrow white tips and white borders to the outermost feathers, thus being very different to the black and white tail of the male.

JUVENILE.—The whole upper-parts are buff to rufous, closely barred with black crescentic bands and the under-parts cream-coloured similarly barred except the chin, middle of belly and under tail-coverts which have few bars; the tail-feathers are much like those of the adult female, but with distinct dark penultimate lines, the wing-coverts and innermost secondaries have blackish crescentic bands. Sexes alike.

FIRST WINTER.—Most of the juvenile body-feathers and lesser and median wing-coverts are moulted from July to September, but a varying number of juvenile body-feathers and wing-coverts are retained as well as the primary-coverts, wing- and tail-feathers and usually the greater coverts. In this plumage there seems to be no sexual difference, and the birds much resemble the adult female, but the crown and rump are more rufous and most of the feathers of the upper-parts as well as the wing-coverts and innermost secondaries have black crescentic bands. As compared to the juvenile, the plumage is not nearly so much barred and the upper-parts are darker and more rufous-brown.

FIRST SUMMER.—The first winter plumage together with the remaining juvenile feathers are completely moulted, including all the wing- and tail-feathers, from November to February. After this moult the male becomes indistinguishable from the adult male, but the female differs from the adult female in having a varying number of feathers of the upper-parts, wing-coverts and innermost secondaries with black concentric bands.

FAMILY BOMBYCILLIDÆ.

WAXWING (*Bombycilla garrulus*).

ADULTS.—Complete moult in October and November. No moult in spring and no change by abrasion. Exceptionally adult females are indistinguishable from adult males, but usually the tail-feathers have paler and narrower yellow tips and are without red tips to the shafts, the yellow borders at the tips of the primaries are paler than in the male and usually confined to the outer webs, the red waxy tips to the secondaries are smaller and frequently missing from some of the feathers.

JUVENILE.—The upper-parts are browner than the adult, the feathers of the crown are only slightly elongated, the chin and throat are brown instead of black as in the adult and the lower breast and belly are slightly striated with pale buff, the tips of the tail-feathers are duller, and those of the primaries have the yellow and brown on the outer webs only and the waxy tips to the secondaries are small and frequently absent on some feathers.

FIRST WINTER.—The juvenile body-feathers, lesser, median and greater wing-coverts are moulted in early autumn, but not the wing- or tail-feathers, so far as I can ascertain, but I have been able to examine only one specimen in the moult from juvenile to first winter. After this moult the birds resemble the adults except for the differences in the wing- and tail-feathers already referred to under the juvenile.

(*To be continued.*)

CAPTAIN CECIL STANLEY MEARES.

CAPTAIN C. S. MEARES was killed whilst leading his Company into action on July 30th, 1916. Born in November, 1883, he was the youngest son of Thomas Meares of Clive Hall, Shrewsbury, and was educated at Bilton Grange and Uppingham, where he was top of the school in mathematics. He represented his school at Bisley for several years in the shooting VIII., and on one occasion tied for the coveted Public Schools' Prize, the "Spencer Cup," and lost on the tie being shot off, by one point.

He was a chartered accountant by profession, and had practised in the City of London for some years. A keen and most energetic sportsman, from his earliest days he had always been particularly fond of the study of British birds, their habits, nests and eggs. As an indefatigable and observant field ornithologist, he had few equals. He made, together with his brother D. H. Meares, an excellent scientific collection of British birds' eggs, which contained perfect clutches of eggs, of nearly every British breeding bird, supplemented by profuse and accurate data of their localities, notes and habits. In the course of his rambles he penetrated most of the out-of-the-way haunts of rare birds in the British Islands, including the Orkneys, and during recent years made special studies of such rare birds as the Dotterel, Hobby, Marsh-Warbler, Montagu's Harrier, Greenshank, Kentish Plover, Quail and Garganey. The only record of the Siskin breeding in Shropshire mentioned in Mr. H. E. Forrest's "Fauna of Shropshire" was made by him. An excellent paper, "British Breeding Ducks," was written by him and printed in *Transactions of the London Natural History Society*, 1914. This paper was reviewed in *British Birds*, Vol. IX., pp. 277-8.

On the outbreak of war, Meares enlisted in the Public Schools and University Corps, afterwards called the "19th Service Battalion Royal Fusiliers," and was

soon given his Commission as Second-Lieutenant rising rapidly to the rank of Captain.

In his spare moments, even within sound of the guns, when in rear for rest purposes, he would take walks and rides through the country to observe the bird-life. He saw a number of Golden Orioles, Crested Larks, Ortolans, etc., and several Harriers. On June 26th last he found the Hobby breeding in a wood quite close to the front line. He reported that Quail were common and that Owls and Kestrels hawked the trenches regularly for rats and mice which abounded.

Eventually, after many exciting minor engagements in Northern France and several very narrow escapes, he was ordered to another part and was killed in action at the head of his Company.

In the numerous letters of sympathy received by his family from officers and men who had served with him, as well as from those with whom he had worked in civil life, two points stand out specially, viz. the love and devotion of those who had served under him, all of whom pay a lasting tribute to the great personal interest which he took in them and in their welfare and comfort : all "the boys" were devoted to him, and officers and men nicknamed him "Daddy." The other point was his almost reckless bravery, and he was continually being urged to take less risks in the presence of the enemy.

These two points were typical of this big, genial, great-hearted fellow.

He died as he would have wished, and his death has been most keenly felt by all his numerous friends, who have lost in him a real and true friend. The memory of Stanley Meares, however, and his cheery companionship, will never be forgotten by those whose privilege it was to know him.

P.B.S.

NOTES

ROOKS BUILDING IN CHIMNEYS.

My attention was drawn this spring to fifteen Rooks' nests which were built in chimneys at Three Counties Asylum, Arlesey, Bedfordshire. It appears that these birds have been in the habit of doing this for, at least, five years past. There is a rookery and suitable nest trees close by, but these particular birds apparently prefer a chimney as a nesting site. The accumulation of twigs and other material became so great this spring that it was impossible to light fires as the chimneys refused to draw. Consequently, the nests were all taken out and the top of the chimneys wired over. I secured a nest, with a clutch of five smoky eggs, for the Letchworth Museum as a memento of this interesting event.

W. PERCIVAL WESTELL.

CETTI'S WARBLER IN SUSSEX.

AN example of Cetti's Warbler (*Cettia c. cetti*) was shot at Westfield, Sussex, on June 21st, 1916. The bird, which was examined in the flesh by Mr. T. Parkin of Hastings, proved on dissection to be a male.

I met with this Warbler in some numbers in the south of France in January 1914, and the bird in question, which was shown to me, closely resembles a specimen which I obtained there.

Mr. Witherby has since seen and compared the bird obtained at Westfield, and finds that it is of the typical form.

G. V. WEBSTER.

BLUETHROAT IN SUSSEX.

ON September 28th, 1916, the wind being from the south-east, I identified an immature Bluethroat (*Luscinia svecica*) on the Eastbourne Crumbles. The bushes here are not very thick, and I was able to see very plainly the light eyestripe of the bird as well as the red of the tail. The Bluethroat seems to be an infrequent visitor to Sussex, and the local taxidermist, Mr. Bates, has no Sussex record of the bird, nor had his father.

E. C. ARNOLD.

LATE NESTING OF SWALLOW IN CHESHIRE.

ON September 13th, 1916, I found a nest containing four young Swallows (*Chelidon r. rustica*). They were only half

fledged and up to the 16th had not left the nest. The nest was situated on a rafter in a hayloft, at Bredbury, Cheshire. The old birds went in and out through an open window.

FRED. W. DEWHURST.

[It is not unusual to find young Swallows still in the nest up to the end of August, but instances of September broods are much less common. Mr. W. F. Teschemaker has recorded finding a brood of young in a nest in a cave on the Manx coast on September 6th (*Zool.*, 1887, p. 373) and at Great Thurlow, Suffolk, I watched young birds in a nest daily till September 15, 1891, on which day they flew. The late Robert Service noticed Swallows about their nests up to October 17, 1882, and on examining the nests on the following day, one had apparently been just vacated by the young, while the other contained eggs on the point of hatching, which were, however, subsequently deserted (*Zool.*, 1883, p. 124). Mr. H. E. Forrest mentions a pair remaining at Ironbridge with their young after the bulk had left till October 20, 1910 (*Caradoc & Sever Valley F. C. Record* for 1910, p. 18.) F. C. R. JOURDAIN.]

NUMBERS OF YOUNG IN BROODS OF SWALLOWS IN LANCASHIRE IN 1915 AND 1916.

HAVING given the percentage for broods of Swallows near Lancaster for several years (*cf.* Vol. IV., p. 249; Vol. V., p. 135; Vol. VI., p. 254; Vol. VII., p. 172 and Vol. IX., p. 71), I now append details for the two summers of 1915 and 1916. The year 1915 was the best I ever remember for Swallows, not only as far as actual numbers were concerned, but also for large broods. In Vol. IX., p. 71, I mentioned the large broods during the month of June, and now add that during July, of thirteen nests visited, three contained five young, and the remaining ten, four young apiece. No nest visited during these two months contained less than four young. The average brood for these two months was 4.65, 50 per cent. having full broods. Comparing this with 1911, which was a good year, we have 4.4 as the average brood, with 45 per cent. of nests containing full broods.

The summer of 1916 was a very bad one for Swallows, as far as actual numbers were concerned, although the average per brood of four was a very fair one. During June, of fourteen nests visited, seven contained five young, five held four apiece, and two had broods of three each. Of a like number of nests visited in July, five held broods of five, six contained four each, whilst three nests contained broods of

three. During August fourteen nests were also visited. None of these contained full broods, seven containing four young, and a like number three apiece. There were no broods of six seen in 1916, but twelve nests out of the forty-two visited held broods of five each, or 28.5 per cent., the average brood per nest being four.

The following table gives the percentages since 1909, with the exception of the year 1914 when I was absent from home.

		Nests.	Broods of six and more.	Broods of five.	Percentage of broods of five or more.	Average brood.
1909	..	11	0	0	0	3.27
1910	..	45	0	15	33	3.89
1911	..	60	3	24	45	4.4
1912	..	20	0	8	40	3.95
1913	..	22	0	3	13.6	3.27
		(June and July only.)				
1915	..	38	5	14	50.0	4.65
1916	..	42	0	12	28.5	4.0

H. W. ROBINSON.

LARGE INCREASE IN NESTING HOUSE-MARTINS IN LANCASHIRE IN 1915 AND 1916.

Up to the year 1914 the number of nesting House-Martins (*Hirundo u. urbica*) was becoming less and less every year in the north-west of England at any rate, so much so that it only seemed a matter of a few years before they would be looked upon as a rare nesting species here. But the summers of 1915 and 1916 have seen them back once more in their old numbers of fifteen and twenty years ago. Under the eaves of buildings where once they used to nest, were again to be seen long rows of seventeen and twenty up to thirty nests. Incidentally it may be mentioned that the parasites which infest them known as *Stenopteryx hirundinis* have been more numerous than ever. Whereas each nestling up to 1914 harboured one or two, or at most three of these creatures, in 1915 and 1916 they swarmed, it being not unusual to find up to a dozen on each nestling.

H. W. ROBINSON.

FOUR EGGS IN A NIGHTJAR'S NEST.

At the Oological dinner recently held in London, I exhibited a set of four eggs of the Nightjar (*Caprimulgus e. europaeus*) taken from the same nest at the same time. The nest was found in June of the present year in north Norfolk.

Some of those present at the dinner were disposed to doubt the possibility of these eggs being the product of the same female; but as I am strongly of the opinion that this was the case, I think it might be of interest to some of the readers of *British Birds* to hear some further details.

The eggs of the Nightjar as a rule show remarkable variety as between clutch and clutch; but these four eggs are curiously even in shape, size, and coloration. Again it is utterly improbable to my mind, that a Nightjar for no reason at all should elect to lay in a nest already occupied: and almost equally unlikely that if the first female came to grief, the male bird would bring his second mate to a nest already containing two eggs, or that she would lay therein.

Apart from these reflections, however, I was anxious to have a careful comparison made between my eggs, and a larger series than I am able to boast of in my small collection. I accordingly requested Mr. P. F. Bunyard to examine them for me, and to compare them with his series of Nightjars' eggs (probably one of the finest series in Europe).

Mr. Bunyard kindly undertook to do this, and I was gratified to find that his opinion coincided with my own. His observations seem to make it quite clear that these eggs are a genuine "four" from the same female, and the following quotations from his subsequent letter to me, will show the grounds on which his opinion is based. Mr. Bunyard says, "The eggs have now had time to dry out, and after very carefully comparing them with my series, I have not the slightest hesitation in saying they are from the same bird. Numbering the eggs 1, 2, 3, and 4, numbers 1, 2, and 3, are of exactly the same type. Number 3 is perceptibly different in shape to numbers 1 and 2; the ground colour is, however, identical, as is also the colour of surface and underlying pigment. Number 4 is somewhat smaller. This is quite a common case in clutches of two Nightjar, and is probably the last egg laid. The evidence is strongly in favour of this with egg number 4, as the pigment is less dense, and there is also less gloss (*i.e.* less of the outermost glutinous layer). There is also a penumbra to the surface markings, pointing to gradual loss of pigment. As regards the state of incubation, though the eggs arrived partly blown, there was sufficient evidence left to enable me to form an opinion that the four eggs were in two stages of incubation: numbers 1 and 2 being four or five days in advance of the others."

In conclusion, I may add that double clutches of eggs are by no means unknown, though a case has not, I believe, been previously recorded in the Nightjar. In some of the

Limicoline birds, however, such as the Greenshank, Redshank, and Lapwing, where eight eggs are not very infrequently found in a nest, it is sometimes clearly the result of two females. But I have seen twelve eggs in a Moorhen's nest, while a laying from two hens would produce about sixteen eggs. Mr. Bunyard tells me he has seen six eggs of the Black-headed Gull in one clutch, "obviously the product of one female," and that Mr J. M. Goodall possesses a genuine "eight" of Woodcock. Many Oologists could probably supply other instances.

CLIFFORD BORRER.

UNUSUAL SITE FOR KINGFISHER'S NEST.

There are two reservoirs at Ynis-y-fro near Newport, Mon.—an upper and a lower one. These are separated by a dam, which is pierced by a tunnel, in which are laid two pipes to convey water from one reservoir to the other. The tunnel is about four and a half feet high by three and a half feet wide, and the pipes rest on masonry supports which are raised at intervals a few inches off the floor. The pipes are placed close to one side and are not embedded in the masonry. The entrance of the tunnel was closed with boards in which were two or three holes three or four inches in diameter. A pair of Kingfishers (*Alcedo i. ispida*) last summer nested in the tunnel, laying their eggs on one of the masonry supports close to the pipe, which of course projected outwards and upwards over them, the pipes being about fourteen inches in diameter. Four eggs were laid and three young successfully reared.

R. C. BANKS.

CUCKOOS' EGGS AND NESTLINGS IN 1916.

This year Cuckoos were as plentiful in the Felsted district as usual, and with the assistance of various members of the Scientific Society twenty-four nests containing eggs or young were found. The species victimized were Hedge-Sparrow (15), Pied Wagtail (5), Robin (2), Sedge-Warbler (1), Reed-Warbler (1). One egg was infertile; this is only the fourth infertile Cuckoo's egg met with out of all I have seen. A mouse entered one nest and destroyed the Hedge-Sparrow's eggs first. Previous to this I have always found the largest egg taken first in such cases. Of the fourteen young that I kept under observation, ten survived the nestling stage—a very good percentage compared with former years (*cf.*, Vols. VI., pp. 330-3; VII., pp. 233-4; VIII., p. 118; IX., pp. 96-7).

The circumstances attending the finding of one of the eggs are perhaps worth recounting. One of the boys was coming to early school (May 15) at the Junior School and saw a Cuckoo fly out of the fence round the playing field. He looked at the spot and found a Hedge-Sparrow's nest containing four eggs and a Cuckoo's egg. This egg hatched on May 22nd. It must therefore have been incubated for at least five days before the boy found it, but whether the Cuckoo seen had any connexion with the egg, it is impossible to say.

Another Cuckoo was interesting because when Hedge-Sparrows had half reared it a *pair* of Linnets joined them. This is the third case of double foster-parentage that has come under my notice. One Wagtail's nest had six eggs as well as the Cuckoo's egg.

The last nestling I had under observation was taken by a cat during the night of July 23/24; it was then ten days old and was probably from one of the last eggs laid near here, as we did not hear the Cuckoo after June 29th.

J. H. OWEN.

HABITS OF YOUNG AND POSSIBLE DOUBLE-BROOD OF COMMON BUZZARD.

MR. J. H. OWEN'S interesting account of the "Flap-dance" executed by the nestlings of a Sparrow-Hawk reminds me of a very similar performance which I witnessed at the nest of a Common Buzzard (*Buteo b. buteo*). I had the two occupants of this nest under close observation for many hours during the last week before they went out into the world. From time to time, at very irregular intervals, a bird would rise and stretch its wings to their full extent high above its back and then springing up about six inches from the nest would do an "about-turn" in mid-air and land facing in the opposite direction. Some flapping of the wings accompanied the action, but the jump appeared to come from the legs, which were held out stiff while in the air. The action was repeated as many as ten times, till perhaps the bird was giddy (I saw nothing, I believe, but a "*right* about turn", and then after a short rest it was at it again. I did not regard the performance as an aid to digestion, though it usually followed a meal; once however, it was gone through when the supply of food had run very short. This "Flap-dance" was indulged in by one nestling only, the smaller of the two: his companion—with whom by the way, he was on the best of terms—had begun to indulge in short flights from the nest,

and at such times he would appear to be seriously considering the venture himself, but unable to summon courage for more than a "flap-dance."

In connection with this note, it may here be recorded that the date when the nest was finally left by both birds was August 30th, 1914, and that the same nest (in a tree) had contained eggs in the preceding April: as these were not interfered with, there is every reason to believe that in this case two broods were reared in the year. I may add that the same nest was again utilised in April of 1916, when I revisited it.

A. H. MACHELL COX.

GREEN-WINGED TEAL WITH FOUR WINGS.

MR. C. E. JOHNSON discusses in *The Auk* (1915, pp. 469-80, pl. xxvii-xxix) a very interesting case of a wild-shot American Green-winged Teal (*Anas c. carolinensis*) with four wings. The bird was an adult female and was shot in November, 1914, near Wyoming, Minnesota. It appeared to have no difficulty in flying. By the courtesy of the editor of *The Auk* we are able to reproduce a photograph of the bird after it had been stuffed. Describing the bird's "external features," Mr. Johnson states that the two sides are essentially alike in external appearance, and proceeds: "When the primary-wings are raised, the supernumerary wings appear as a miniature set springing from the under-side of the former at the region of the elbow, presenting corresponding surfaces and with divisions of forearm and hand clearly indicated. The feathery covering shows no modifications representing flight feathers, but consists of under wing-coverts, which belong primarily to the feather tracts of the normal pair." Apparently, complete flexion or extension of the supernumerary wings could not take place. "When the primary-wings are folded in place against the body, the tips of the smaller set project beyond their margins ventrally as a pair of inconspicuous feather tufts. . . . The accessory wings may possibly during life have interfered somewhat with the folding of the larger pair, though in the dead bird this is not apparent."

Mr. Johnson then proceeds to discuss the skeleton and the muscles and nerves, and finally the question of causes, but for these details we must refer those of our readers who are interested to the original.

Mr. Johnson states that he has found no record of any avian abnormality similar to the case described. He gives a short bibliography relative to accessory digits and

other abnormalities, but he has omitted to mention the extraordinary case reported in the *Field* (4. I. 13, p. 44) and referred to by us (*B.B.* VI., p. 284), of a Red Grouse with an accessory digit to which were attached three



GREEN-WINGED TEAL WITH FOUR WINGS.
(From "THE AUK.")

accessory primaries. In a recent issue of *The Auk*, (1916, p. 439) Mr. W. H. Bergtold points out that in Bland-Sutton's *Evolution and Disease*, an illustration is given of a dove with an accessory wing.

POSSIBLE NESTING OF QUAIL IN CAMBRIDGESHIRE.

ON July 10th, 1916, in the Cambridge district, Mr. W. Farren and I heard a Quail (*Coturnix c. coturnix*) calling in a large rough pasture. We walked over to the place and flushed the bird. From the date and place it seemed likely that it might be breeding, although no nest was found. The species has now become very scarce in Cambridgeshire.

MAUD D. HAVILAND.

PROBABLE CARRION-CROW OFF CO. DUBLIN.—Mr. G. C. May states (*Irish Nat.*, 1916, p. 100) that he saw at Ireland's Eye on June 15th, 1916, a bird which he took to be *Corvus corone*. Mr. May's description of the bird would do equally well for a young Rook, but he particularly noted its harsh, guttural note.

SUPPOSED RED-BACKED SHRIKE IN IRELAND.—In the *Field* (17. VI., '16, p. 970) Mr. W. J. E. Dawson states that he discovered a pair of *Lanius collurio* near Athlone about the end of April, 1916. Mr. Dawson has kindly sent us further details of the birds he saw and we feel sure from what he says that he was mistaken in his identification of these birds as Red-backed Shrikes.

LESSER WHITETHROAT BREEDING IN NORTHUMBERLAND AND CUMBERLAND AND PROBABLY IN KIRKCUDBRIGHTSHIRE.—Mr. G. Bolam states (*Scot. Nat.*, 1916, p. 264) that he discovered this year (1916) at least three pairs of *Sylvia c. curruca* breeding in north and south Tynedale. In two cases the young were duly reared. Mr. Bolam also states that he observed a Lesser Whitethroat from June 4th to 8th at Kirkclauch. This bird was in full song and although he did not find a nest, Mr. Bolam considers the bird was breeding there.

CONTINENTAL REDBREAST IN FIFESHIRE.—Miss E. V. Baxter and Miss L. J. Rintoul record (*Scot. Nat.*, 1916, p. 265) the occurrence of an example of *Erithacus r. rubecula* at the mouth of Cambo burn on April 24th, 1916. This form had not previously been noted in the Tay area.

WRYNECK IN ABERDEENSHIRE.—Mr. A. L. Thomson records (*Scot. Nat.*, 1916, p. 239) that a male *Jynx t. torquilla* was sent to the Aberdeen University in the middle of May 1916 from the district of Fraserburgh where it had apparently been captured alive about that time.

GREAT CRESTED GREBES BREEDING IN EAST FIFESHIRE.—Although known for some time to breed in the western part of Fifeshire *Colymbus c. cristatus* has not hitherto been found nesting in the east of that county. Miss E. V. Baxter and Miss L. J. Rintoul, however, now make the interesting announcement (*Scot. Nat.*, 1916, p. 264) that this year, (1916) they found two and possibly three pairs breeding on Kilconquhar Loch.

BLACK-TAILED GODWITS IN IRELAND.—In the course of some "Notes on Irish Birds" (*Zool.*, 1916, p. 351) the Rev. J. M. McWilliam states that an example of *Limosa limosa*

was brought to him on April 26th, 1906, at Ballinamore, co. Leitrim. It was said to have been shot out of a large flock at Garadice Lake. In August, 1912, in co. Monaghan, Mr. McWilliam and his brother shot one out of four, and a few days later saw two more in the same neighbourhood.

ROSEATE TERN OFF CO. WEXFORD.—Prof. C. J. Patten records (*Irish Nat.*, 1916, p. 120) that an adult female *Sterna dougalli* was picked up dead on the Tuskar Rock on May 7th, 1916, and forwarded to him.

LITTLE GULL IN LANARKSHIRE.—Mr. J. Robertson states (*Scot. Nat.*, 1916, p. 240) that he and Mr. D. Macdonald saw an immature *Larus minutus* from May 16th to 21st, 1916, on the Kelvin river near Summerston. The bird is scarce on the west coast of Scotland.

SCANDINAVIAN LESSER BLACK-BACKED GULL IN FIFESHIRE.—On July 9th, 1916, Miss E. V. Baxter and Miss L. J. Rintoul saw in Largo Bay a Lesser Black-backed Gull with a "coal-black mantle" standing with four or five of the British form *Larus f. affinis*. No doubt this bird was an example of the typical *L. f. fuscus* (*Scot. Nat.*, 1916, p. 265).

WATER-RAIL AT ST. KILDA.—With reference to Dr. W. E. Clarke's recent record of a Water-Rail at St. Kilda (*cf. antea*, p. 70), Dr. J. Wigglesworth points out (*Scot. Nat.*, 1916, p. 241) that the first recorded visit of the bird to St. Kilda was on November 3rd, 1903, when an example was captured and sent to him.

LETTER.

HABITS OF SPARROW-HAWKS.

To the Editor of BRITISH BIRDS.

SIRS,—In the last chapter of his delightful, and accurate account of the habits of Sparrow-Hawks, Mr. Owen asks for candid criticism and suggestions. My own observations extending over very many years are practically the same as his. They differ somewhat in the question of "soaring." I had no idea that the Sparrow-Hawk was supposed not to soar? On almost any calm brilliant day, especially one following a spell of bad weather, we see Sparrow-Hawks soaring over these woods, and often drifting away in spirals out of sight at a great height. I have looked upon them, and often heard others make the remark that they are exceptionally good "Soarers," rising very fast in small circles. I too have seen them soar in company with a Kestrel on many occasions, and also with a Rook! I do not think I have noticed the cock soar as frequently as I have hens.

E. G. B. MEADE-WALDO.

STONEWALL PARK, KENT.

Oct. 5, 1916.

REVIEWS

The Birds of Britain, their Distribution and Habits. By A. H. EVANS, M.A., F.Z.S., M.B.O.U. (Cambridge University Press). Illustrated. 4s. net.

THIS little work, as we are told in the Preface, is primarily intended for schools. To criticize it from the schoolmaster's point of view would be beyond us as we do not know the requirements, but if a boy is to learn ornithology as he would history the plan of the book is no doubt correct, on the other hand, if the object is to attract the boy to the study of birds, or to enable him to identify what he has seen, we fear this book is too condensed for either purpose. For Mr. Evans has put into the small compass of some 260 pages in a narrative form an account of all those birds which breed, or have bred in the British Isles as well as those migrants which are regular in their appearance, while the occasional visitors are relegated to a list at the end. In this list, by the way, we notice the Continental Song-Thrush, the Greenland Wheatear and the Continental Robin, which being regular migrants should certainly have appeared in the body of the work, while *Anser erythropus* should be the Lesser White-fronted instead of Pink-footed Goose. It would be unfair to scrutinize such a work with a severely critical eye, but there are some mis-statements of fact which should be mentioned. The Willow-Tit according to Mr. Evans is the black-capped Tit which breeds in the border counties of England, but we know of very few records of its occurrence in these counties, while the Marsh-Tit is well known to occur in Northumberland. Further he states that Irish birds require examination, but except for some which have been liberated in one locality neither the Marsh- nor Willow-Tit is to be found in Ireland. The Blue Tit is said to be absent from Spain, and the Great Spotted Woodpecker from North Africa! That the Black-headed Gull "always breeds inland in Britain" is a curious mis-statement, when probably the largest colony in Great Britain is at Ravensglass by the sea. As Mr. Evans claims to have included the results of the most recent observations it should be mentioned that in the matter of subspecies he is singularly inconsistent. He seems to be in two minds about the question all the way through. For instance the Marsh-Tit is named *Parus palustris dresseri*, but the Scottish Crested Tit *P. cristatus*, and the Blue-Tit *P. cæruleus* though both are said to differ from Continental

birds. Of some very distinct forms such as the Irish Jay and Hebridean Thrush no mention at all is made. Yet all these subspecies were accepted by the B.O.U. List Committee of which Mr. Evans was a member. A knowledge of subspecies would have prevented the author from making the curious, and so far as we know totally erroneous, statement, that the increase of the Great Spotted Woodpecker as a breeding bird in Scotland is due to immigration from the Continent. Many of the illustrations from photographs of wild birds are excellent, but we think that those taken from birds in captivity and from cases in the Natural History Museum should have been so labelled. On p. 65 an illustration of Pied Flycatchers is upside down and wrongly lettered Spotted Flycatcher, while it would have been as well to mention that the Cuckoo figured on page 110 is a young one.

H. F. W.

Index of Genera and Species referred to, and an Index to the Plates in "The Ibis" 1895-1912. Edited by WILLIAM LUTLEY SCLATER. (British Ornith. Union.) £1 12s. 6d.

To all those who possess recent series of the *Ibis* this Index will be most welcome. for hitherto it has been necessary to consult eighteen separate indices to find references to genera and species referred to since 1895. The first name index to the *Ibis* covered the years 1859 to 1876, or fifteen volumes and ran to 431 pages. The second index covering the years 1877 to 1894 or the same number of volumes occupied 471 pages, while the present work extends to 513 pages. Proportionately to the second, this last index should have reached 565 pages and as in addition trinomials have been indexed under each of the three names it would appear that fewer genera and species have been referred to in the *Ibis* in recent years than in the past.

The compilation of the Index has been undertaken by Mr. H. Peavot and Mr. T. Wells, who have completed a most laborious task in a very satisfactory manner. It is really impossible to avoid mistakes in such a work, but more careful cross-checking might, we think, have been beneficial. We have checked the Index here and there, and have noted the following errors which may be worth mentioning: p. 80, *Caprimulgus europæus*, 1903 pp. 212 and 231 are omitted; p. 110, *cirlus*, *Emberiza*, 1895 should be 1905; p. 136, *cyaneus*, *Circus*, 1910 p. 34 should be 39; p. 169, *excubitor pallidirostris*, *Lanius*, 1910 p. 49 should be 495; p. 217, *Hirundo rustica*, 1909 pp. 155 and 238 are omitted.

H. F. W.

BRITISH BIRDS

EDITED BY H. F. WITHERBY, F.Z.S., M.B.O.U.

ASSISTED BY

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THE "BRITISH BIRDS" MARKING SCHEME.*

PROGRESS FOR 1916 AND SOME RESULTS.

BY

H. F. WITHERBY.

NOTWITHSTANDING the many difficulties and preoccupations imposed upon us all by the war, the number of birds ringed under the *British Birds* scheme during 1916 has been very satisfactory. We know that many of our "ringers" have often been glad of such an occupation as this by way of a relaxation from sterner duties, and to them and all others who have so loyally supported the scheme we tender our hearty thanks. The following are the grand totals of birds ringed :—

NUMBER OF BIRDS RINGED.

In 1909	...	...	...	2,171
„ 1910	...	...	...	7,910
„ 1911	...	...	...	10,416
„ 1912	...	...	...	11,483
„ 1913	...	...	...	14,843
„ 1914	...	...	...	13,024
„ 1915	...	...	...	7,767
„ 1916	...	...	...	7,107
Total				74,721

It will be remembered that last year Mr. F. W. Sherwood ringed the greatest number of birds for the year, while in 1914 Dr. H. J. Moon did the same. This year, Dr. Moon and Mr. Sherwood head the list together, their joint labours having resulted in the splendid total of thirteen hundred and fifty-eight.

Mr. A. Mayall an equally ardent supporter of the scheme, with eleven hundred and sixty is a most excellent second, and this is well over his last year's total.

* For previous Reports see Vol. III., pp. 179-182, for 1909; Vol. IV., pp. 204-207, for 1910; Vol. V., pp. 158-162, for 1911; Vol. VI., pp. 177-183, for 1912; Vol. VII., pp. 190-195, for 1913; Vol. VIII., pp. 161-168, for 1914; Vol. IX., pp. 222-229, for 1915.

Mr. S. K. Barnes, with five hundred and fifty-one, has done splendidly, while Mr. J. Bartholomew, with one less than Mr. Barnes, has beaten his own large totals for a number of years past. Mr. J. R. B. Masfield, also a staunch supporter, has almost reached five hundred, Mr. F. E. Blagg four hundred and fifty, and Mr. H. W. Robinson four hundred. Mr. T. C. Hobbs has ringed the useful number of two hundred and five, while no less than six others have reached over the hundred.

There is a slight falling off in the proportionate number of recoveries recorded during the year, but this is only to be expected when all the conditions are taken into consideration. I have picked out in the following table some of the more interesting records reported during the year of summer migrants which were all ringed as nestlings.

	Ringed.		Recovered.
Wheatear ..	St. Annes, Lancs.,	17/6/'15..	Same place, 25/5/'16.
Swallow ..	Lytham, Lancs.,	3/7/'15 ..	nr. Grahamstown, S.A., 6/2/'16.
.. ..	Petersfield, Hants.,	4/9/'15..	Henfield, Sussex, 30/5/'16.
.. ..	Broughton, Peebles.,	4/7/'14	Same place, 5/5/'16.
.. ..	Ingleton, Yorks.,	20/6/'15 ..	Same place (nesting), 29/5/'16.
Martin ..	Lytham, Lancs.,	10/7/'14 ..	Near same place, 7/6/'16.
.. ..	Petersfield, Hants.,	27/6/'15	Near same place (ap- parently nesting), July 1916.
Sandwich Tern	Farne Is.,	5/7/'14	Tarbatness, Ross., 16/8/'16.

The records of nestlings of migrating species returning to the place of their birth in subsequent years at the breeding season are very interesting, though it is unfortunately not usually possible to get *positive* evidence that such birds are breeding. The above is the first record we have had of the kind referring to the Wheatear. The record of the Sandwich Tern going so far to the north of the place in which it was hatched is very curious and it may be stated that from evidence which has been supplied to me concerning the sexual organs of the bird, it would appear not to have bred.

A Little Gull (*Larus minutus*), an adult caught at Louth, Lincolnshire, and ringed by Mr. J. S. Allison on February 25th, 1915, was found dead in the harbour at Esbjerg, Denmark, on February 3rd, 1916. As it was the only individual of the species ringed under our scheme it is remarkable that it should have been reported.

A Pied Wagtail ringed by Mr. Masefield as a nestling at Cheadle, Staffordshire, on June 18th, 1915, and reported from Vieira de Leiria, Portugal, by Mr. Tait in January, 1916, is a valuable record.

It may be mentioned that we have now had reported several five-year-old Black-headed Gulls, one five-year-old and several four-year-old Lapwings, a five-year-old Common Tern and a Heron of five and a half. Of smaller birds, two Starlings of four years and a number of over three years may be mentioned, as well as Greenfinch, Chaffinch, Martin, Blackbird and Song-Thrush of over three years.

In a future issue I hope to give a summary of the facts so far recorded by means of our ringing scheme concerning the movements or otherwise of some of those species which are considered as partial migrants in this country. The records we have so far obtained concerning such species are exceedingly interesting and valuable, and in many cases sufficiently numerous to make a brief summary of them advisable. It must not be thought, however, that we have done enough, or nearly enough, to come to any definite conclusions, and I hope that all those interested in the scheme will remember this and will continue to ring the greatest number of birds they can, and especially of those species which yield the best results. I should like to see more of the following species ringed:—Wagtails, Mistle-Thrush, Ducks, Cormorant, Shag, Gannet, Wood-Pigeon and Doves, and all Waders and Gulls, except the Black-headed Gull.

As I have already mentioned, the proportion of recoveries has dropped slightly during the year. The percentage now stands at 2·9, this being calculated on

the 67,614 birds ringed from 1909 to 1915, of which 2,010 have been reported up to date. As in former reports, I have given below the detailed percentages of recoveries in certain species.

SOME PERCENTAGES OF RECOVERIES.

Species.	Number Ringed 1909-15.	Number of these Recovered to date.	Percentages of Recoveries.
Starling	5,720	360	6.2
Greenfinch	1,690	20	1.1
Linnet	725	9	1.2
Chaffinch... ..	1,720	27	1.5
Sky-Lark... ..	1,169	6	.5
Meadow-Pipit	924	13	1.4
Pied Wagtail	500	14	2.8
Spotted Flycatcher	452	1	.2
Willow-Warbler	1,341	13	.9
Whitethroat	237	2	.8
Mistle-Thrush	438	15	3.4
Song-Thrush	6,274	92	1.4
Blackbird	3,557	112	3.1
Redbreast	1,937	78	4.0
Hedge-Sparrow	1,324	32	2.4
Swallow	3,874	31	.8
Martin	951	11	1.1
Sand-Martin	436	3	.6
Cuckoo	78	5	6.4
Sparrow-Hawk	55	9	16.3
Heron	106	15	14.1
Mallard	540	122	22.5
Cormorant	470	80	17.0
Shag	156	14	8.9
Gannet	198	10	5.0
Wood-Pigeon	139	7	5.0
Lapwing	3,346	70	2.0
Redshank	220	10	4.5
Curlew	176	11	6.2
Snipe	151	12	7.9
Woodcock	345	37	10.7
Sandwich Tern	655	7	1.0
Common Tern	2,918	72	2.4
Black-headed Gull	11,933	458	3.8
Common Gull	487	13	2.7
Herring-Gull	491	17	3.4
Lesser Black-backed Gull	2,318	94	4.0
Puffin	899	1	.1

NUMBER OF BIRDS "RINGED."

DR. H. J. MOON and Mr. F. W. Sherwood (1358), Messrs. A. Mayall (1160), S. Kendall Barnes (551), J. Bartholomew (550), J. R. B. Masefield (493), F. E. Blagg (450), H. W. Robinson (400), T. C. Hobbs (205), R. O. Blyth and Miss A. Blyth (183), Messrs. J. Appleby (175), O. J. Wilkinson (145), J. A. Anderson (132), E. W. Hendy (119), C. F. Archibald (108), F. W. Holder (92), Mrs. Patteeson (90), Miss V. E. and Messrs. P. A. and D. E. J. Buxton (69), Messrs. J. S. Elliott (57), H. F. Witherby (49), J. G. Gordon (48), B. H. Fell (42), E. de Hamel (41), The London Natural History Society (Mr. W. E. Glegg, Hon. Sec.) (41), Messrs. Smith Whiting (37), T. F. Greenwood (34), O. G. Pike (33), H. E. Cave (28), Mrs. Seton Gordon (28), Messrs. F. J. Wilcock (27), G. B. Hony (26), Miss C. M. Acland (25), Mr. J. G. Maynard (24), Major W. F. Mackenzie (23), Miss B. A. Carter (22), Mr. R. P. Greg (22), Captain M. Portal (20), Mr. H. Whitley (20), and many others who have ringed under twenty each.

	'09-'10	'11	'12	'13	'14	'15	'16	Total
Rook ...	1	64	35	23	5	45	6	179
Jackdaw ...	16	15	6	15	33	26	23	134
Starling ...	449	1109	1469	1133	646	914	368	6088
Greenfinch ...	128	208	439	381	344	190	382	2072
Twite ...	—	—	—	24	18	—	—	42
Redpoll, Lesser	8	—	19	45	22	1	37	132
Linnet ...	85	63	64	148	151	214	195	920
Bullfinch ...	8	16	18	22	20	29	23	136
Chaffinch ...	109	271	360	331	397	252	319	2039
Sparrow, House	117	85	60	175	17	7	3	464
Sparrow, Tree	66	24	33	27	14	7	4	175
Bunting, Yellow	17	31	127	41	32	47	32	327
Bunting, Reed	10	40	17	39	49	15	18	188
Lark, Sky ...	21	39	138	390	253	328	195	1364
Pipit, Tree ...	40	19	38	27	42	4	16	186
Pipit, Meadow	59	75	120	318	169	183	131	1055
Wagtail, Yellow	1	—	—	22	28	13	12	76
Wagtail, Grey	11	13	23	17	22	7	12	105
Wagtail, Pied...	41	42	100	114	110	93	93	593
Tit, Great ...	143	154	73	221	67	65	10	733
Tit, Blue ...	66	144	124	228	70	3	12	647
Tit, Coal ...	12	26	9	24	7	10	—	88
Tit, Marsh ...	25	3	3	17	1	3	—	52
Tit, Long-tailed	3	—	5	28	1	1	3	41
Jay ...	5	3	4	7	7	4	—	30
Wren, G.-crested	16	15	—	1	—	1	7	40
Shrike, R.-backed	17	13	9	8	14	14	29	104
Flycatcher, S.	88	64	54	84	84	78	63	515
Chiffchaff ...	18	5	5	14	9	—	5	56
Warbler, Willow	157	139	266	251	271	257	123	1464

	'09-'10	'11	'12	'13	'14	'15	'16	Total
Warbler, Wood	12	27	7	20	9	—	2	77
Warbler, Reed	4	10	14	60	37	1	10	136
Warbler, Sedge	5	12	21	43	—	4	32	117
Warbler, Garden	12	13	17	20	9	15	16	102
Blackcap ...	7	12	4	7	23	23	12	88
Whitethroat ...	75	33	21	43	25	40	61	298
Whitethroat, L.	20	5	15	20	8	23	23	114
Fieldfare ...	48	30	7	—	—	—	—	85
Thrush, Mistle	50	40	83	82	85	98	91	529
Thrush, Song ...	696	693	739	1197	1818	1131	1500	7774
Redwing ...	7	20	4	5	4	1	2	43
Ouzel, Ring ...	—	9	22	20	22	—	8	81
Blackbird	588	421	448	626	975	499	751	4308
Wheatear ...	16	1	34	19	57	23	17	167
Whinchat ...	37	28	21	41	69	53	26	275
Stonechat ...	10	19	8	55	30	2	12	136
Redstart ...	16	35	26	31	42	40	6	196
Nightingale ...	11	4	—	8	4	7	—	34
Redbreast ...	258	322	282	355	471	249	263	2200
Sparrow, Hedge	135	198	226	268	269	228	193	1517
Wren ...	47	62	76	101	141	134	106	667
Dipper ...	13	22	23	15	23	17	10	123
Swallow ...	576	594	421	653	734	896	720	4594
Martin ...	141	73	104	160	275	198	208	1159
Martin, Sand ...	25	66	1	118	182	44	133	569
Nightjar ...	3	3	11	4	9	2	6	38
Wryneck ...	30	1	12	11	31	22	34	141
Cuckoo ...	8	13	23	23	6	5	5	83
Owl, Barn ...	10	—	19	14	9	14	3	69
Owl, Tawny ...	13	6	18	7	13	17	—	74
Kestrel ...	1	5	8	—	10	10	5	39
Hawk, Sparrow	5	19	11	5	11	4	5	60
Heron, Common	27	22	30	24	2	1	4	110
Sheld-Duck ...	25	2	10	1	2	9	—	49
Mallard ...	31	139	52	200	76	42	30	570
Teal ...	22	3	1	22	10	25	1	84
Wigeon ...	3	1	—	2	11	38	15	70
Duck, Tufted ...	3	2	—	20	15	22	3	65
Cormorant ...	3	25	54	266	122	—	—	470
Shag ...	4	—	23	15	114	—	—	156
Gannet ...	—	—	—	134	56	8	—	198
Shearwater, Mx.	—	—	60	9	—	—	—	69
Wood-Pigeon ...	23	22	33	26	18	17	14	153
Dove, Stock ...	5	6	7	9	9	2	3	41

	'09-'10	'11	'12	'13	'14	'15	'16	Total
Dove, Turtle ...	12	11	—	10	4	11	10	58
Oystercatcher	23	8	6	10	31	6	—	84
Plover, Ringed	35	12	20	28	20	7	4	126
Plover, Golden	2	2	13	7	6	9	4	43
Lapwing ...	310	280	676	558	1078	444	242	3588
Sandpiper, C. ...	15	29	36	24	23	13	20	160
Redshank ...	24	12	68	28	61	27	15	235
Curlew, Common	24	34	55	15	39	9	10	186
Snipe, Common	24	21	34	22	44	6	13	164
Woodcock ...	16	68	57	83	89	32	—	345
Tern, Sandwich	136	24	22	203	270	—	—	655
Tern, Common	1622	669	380	51	195	1	1	2919
Tern, Arctic ...	25	1	1	3	47	—	—	77
Tern, Little ...	31	13	85	35	9	—	1	174
Gull, B.-headed	2245	2949	2660	3915	164	—	13	11946
Gull, Common	184	248	27	11	17	—	20	507
Gull, Herring	122	48	178	82	61	—	19	510
Gull, L. Blk.-bkd.	149	62	122	454	1317	214	219	2537
Gull, G. Blk.-bkd.	9	13	1	2	53	—	—	78
Kittiwake ...	15	—	—	2	16	—	—	33
Razorbill ...	31	3	—	2	24	—	—	60
Puffin ...	19	12	108	207	553	—	2	901
Moor-Hen ...	34	23	24	39	34	65	21	240

NOTE.—Forty-four species, of which less than thirty individuals each have been ringed, are omitted from this list, as also are game-birds and those of which the identification was not certain.

NOTES ON THE BREEDING-HABITS OF
TEMMINCK'S STINT.

BY

MAUD D. HAVILAND.

AT Golehika on the estuary of the Yenesei. Temminck's Stint (*Erolia temminckii*) is abundant in some spots ; but it is quite dependent upon certain environmental conditions and where these do not occur you may travel



TEMMINCK'S STINT: INCUBATING.

(Photographed by Miss M. D. Haviland.)

for very many versts along the river banks without seeing a bird. Temminck's Stint, in this district at all events, breeds only in the neighbourhood of running water, and then only if the bank of the stream is overgrown with dwarf willow. In this it differs from its congener the Little Stint (*Erolia m. minuta*), which does not breed near running water unless it finds there its characteristic *habitat* of sphagnum swamp also. This dependence of a species on a certain environment is very interesting and

in this case it was very marked. It may have been that some favourite food was found among the willows, although the stomachs of such birds as I examined contained nothing more distinctive than mosquito larvæ and in one case two little molluscs. But then there seems no very clear reason why the birds should limit themselves to the willows by the river, and should not visit the willows on the tundra. On the other hand it may be that their chosen *habitat* is by running water, but in that case why should they not breed in the sphagnum swamps by the river bank? The fact remains that, in the Golchika district, willows and running water mean Temminck's Stints: either or neither means none; and this rule held good, not only by the Yenesei, but far up the sources of the little nameless rivers that rise out on the tundra.

I do not presume to offer an opinion on this curious restriction of the local range of the species, unless it is permissible to suggest that if we knew more of the history of this bird's distribution we might accept the explanation offered in analogous but more familiar cases by Mr. S. E. Brock (*British Birds*, Vol. VIII., p. 35). "The *habitat* wherein breeding is accomplished is the most primitive environment. . . . The bird's present distribution is based on and limited by a breeding *habitat*, the type of which is fixed by ancestral experience, modified only in subordinate degree by present conditions." In this connection I cannot help remarking that in the field, in colour of plumage, both nestling and adult, in language, in tricks of gait, and, on the lower Yenesei at all events, in *habitat*, Temminck's Stint more nearly resembles a Sandpiper (*e.g.*, *Tringa hypoleucus*) than the Little Stint (and thus the Dunlins) with which it is associated in scientific and English nomenclature.

To a country that has only four song birds—two Buntings, a Pipit and the Shorelark—I am inclined to grant a fifth and include Temminck's Stint. Certainly in the pairing season the trilling of these most vociferous

and graceful waders is musical enough to deserve the name of song. The sound is shrill and long sustained, louder and less mechanical than the note of the Grass-hopper-Warbler, more musical than the whirr of the fisherman's reel, and may be likened more truly to the croaking of many natterjack toads in chorus. The duration of the trill was generally between twenty



TEMMINCK'S STINT: APPROACHING THE NEST.

(*Photographed by Miss M. D. Haviland.*)

seconds and half a minute, sometimes less, delivered breathlessly and without a pause, while the bird hung suspended some forty feet in the air. When it was finished the bird sometimes dropped back to earth, but more often glanced away obliquely, either to give chase to a rival, or else to hover in some new spot and begin all over again. The trill was always more perfect and more sustained when delivered thus on the wing, than when, as sometimes happened, the bird was perched on a tree trunk or block of ice. But perhaps I overrate the

language of this little wader, for our judgments of birds' songs are like most other impressions, apt to be influenced by our own feelings : and I first heard Temminck's Stint calling in surroundings, both natural and human, that were so strange to me and so stimulating that I am afraid that even now, many months afterwards, they must unconsciously colour any description that I write.

But whatever the quality, no illusion can discount the quantity of the love-songs of Temminck's Stint. On the journey down the Yenesei, as the character of the country changes from taiga to tundra, and the sun's course swings from an arc to a circle that sets a crown on the two months' day of the glorious Arctic summer, nothing is more impressive than the tireless vigour and strength of all life. From mid-June onwards the birds never seem to sleep. Doubtless they do so fitfully when the shadows are long on the snow-drifts, but others of their fellows are always ready to take their places. As far as a human observer can see there is no noonday siesta, nor roosting time, as in this land of leisurely seasons, and throughout the splendid sunny midnights, the marshes ring most wonderfully with the calls of Stints, Terns, Gulls, Ducks and Divers. The strain of this two months of continual passion, challenging, fighting, wooing and mating on the individual bird, coming as it does at the end of the great migratory flight, must be tremendous. One wonders that they can find time to eat. Probably they do not need much food at this season. The Ruffs for instance, arrive at the breeding grounds padded thickly with fat, and Manniche records that in Greenland (*The Birds of North-east Greenland*) the female Grey Phalaropes are similarly jacketed. But, from first to last, no bird of the whole rout declared himself more strenuously than Temminck's Stint. At any time by the Golchika River you could count a dozen birds aloft at once, trilling and palpitating like marionettes dangled on invisible strings from the sky.

Seebohm seems to think that this trill is partly an alarm call, for he says (*Birds of Siberia*, p. 217):—"The Little Stint seems to be a very quiet bird at the nest, quite different to the Temminck's Stint. When you invade a colony of the latter birds, especially if they have young, the parents almost chase you from the spot . . . hovering in the air and trilling." I did not find this passage in Seebohm's book until I returned home;



TEMMINCK'S STINT: ADJUSTING THE EGGS.

(Photographed by Miss M. D. Haviland.)

and while I was in Temminck's Stint country, I regarded the trilling as a courtship performance, not as a sign of anger. Perhaps it is similar in nature to the drumming of the Snipe, for it was not heard during the latter part of incubation, nor when the young were hatched; and although no doubt it could be called forth, like the bleating of the Snipe or the song of the Sedge-Warbler, by a disturbance in the breeding grounds, it continued day and night, whether a human intruder were present or not.

At Golchika, Temminck's Stints fed entirely by the waterside, unlike the Little Stints, which fed in the swamps and out on the tundra. The only exception was on my first arrival in the district, when a number of birds of both species fed around the melting snow drifts by the balagans; but perhaps this was because the country, still half frozen, was suddenly overwhelmed by a great rush of birds, and food must have been very scarce for a few days. The Little Stints were tame and confiding, but Temminck's Stints were wild and fractious, continually ruffling at their neighbours, and protesting when a passing man or dog disturbed them.

Temminck's Stints, as I have said, breed entirely in scrub willow, and as this ground is swamped during the thaw, the birds must wait until the floods have gone down, and therefore in most cases they do not nest until five or six days later than the Little Stints. The nest shown in the photograph was an exceptionally early one. I found it on the last day of June. Within fifty yards of the house where I lodged stands a little wooden church, in which service is held once a year when the *pope* comes down the river from Dudinka to teach and marry and baptize the population of a country that is as large as the United Kingdom. There were a few graves outside the church, and on the mound of one of these the first Temminck's Stint had built her nest out of the way of the sludge around. This bird was tamer than most of her kind, and when disturbed shammed injury. This trick was almost universal among the Little Stints, but this was the only time that I observed it in *Erolia temminckii*. The nests of the Little Stints were in most cases lined with willow or birch leaves; but the nests of Temminck's Stints, although built in willow scrub, never contained leaves in circumstances that suggested that the birds had arranged them there, although most nests were lined with grass bents neatly coiled in the cavity.

In my experience Temminck's Stint is not a close sitter, and the nests are difficult to find. The willow

scrub is knee high, and as you walk through it the wind tosses the leaves until their silvery under sides flash up in a long ripple from end to end of the marsh, as when the light strikes on the flank of a rising wave. And just at that moment a Temminck's Stint flicks up silently from her eggs, twenty paces ahead, and you lose sight of her grey wings at once (even if you saw them at all) in that



TEMMINCK'S STINT: RISING FROM THE EGGS.

(*Photographed by Miss M. D. Haviland.*)

shiver of sun and wind over the willows. The accompanying photographs of the bird were taken in such a place on the 17th July. This nest for some reason contained only three eggs. I made a first attempt to photograph the bird on the 16th, but it was very shy, and did not give me a chance. This was disappointing, for I was to make a three days' trip into the tundra on the 18th, and knew that the eggs would hatch during my absence. The 17th was a brilliant day, and, resolving to leave nothing to chance, I went out early to find an assistant

to come with me to the tent, and leave all in order against the bird's return. The adult population of Golchika was out fishing, but I was lucky enough to obtain the help of a mystified but obliging infant of seven years old.

The bird watched the boy off the place, and then returned at once to the nest. And I have nothing particular to chronicle. She covered her eggs methodically, ran off with clock-like regularity whenever an exposure was made, and returned again as soon as the tent was quiet. The fashion of her return was to fly right up to the eggs with a stormy gust of wings, and considering her mouse-like size the noise was startlingly loud. It is very difficult to realize the smallness of these tiny waders when pitching the tent by the nest, and I wished at once, as I focussed her upon the screen, that I had pushed the camera a little nearer, for she was invisible as she dodged round the eggs in the forest of scrub willow. Later in the day she varied her procedure by going to sleep. I took advantage of her mood to substitute a 14" for an 8" lens, and took her portrait on a larger scale. Throughout I say "she" for convenience and convention, for in this case I did not ascertain the sex of the bird. But I have obtained both male and female birds from nests on other occasions.

The nestling of Temminck's Stint is very distinct from that of *Erolia minuta*, being much greyer in colour. I have never found one myself, but one of the Russians brought me a newly-hatched chick and a male Grey Phalarope, which he declared was *maht*, i.e., the mother. I was not acquainted with the young of this species, so I labelled the nestling provisionally as a Phalarope. Since my return, however, Mr. Heatley Noble has kindly allowed me to see his fine collection of young in down, and the skin in my collection turns out undoubtedly to be *Erolia temminckii*, the young of *Phalaropus fulicarius* being quite distinct.

When the young are hatched the old birds are very anxious and dash boisterously round the intruder,

uttering a sharp alarm note. More than one bird is always present on these occasions; but whether these are both parents, or whether, as is the case with many of these northern waders, two or three broods congregate, each contributing an adult to the flock, I was never able to satisfy myself.

The half-grown chicks can swim very nimbly if hard pressed. Twenty big sledge dogs roamed about the Golchika island, and used to make concerted raids into the swamps, where they hunted Ruffs, Stints, and Phalaropes in the cotton-grass, and I suspect they took heavy toll of the young broods.

The young and old birds flocked during August, but never in such numbers as did the Little Stints, and I never saw them associate with the mixed parties of Ringed Plover, Little Stints, and Dunlins that fed on the sandflats.

The departure for the south was rather gradual. I never identified any of this species flying up the river, and there was no very marked movement to be recorded, though the majority of the birds had left by August 25th. The bulk of the Little Stints also left round about that date, though in my notes I record that I saw a few birds up to the end of the month, but I have no record of Temminck's Stint after the 27th of August.

NOTES

ROOKS BUILDING IN AND ON CHIMNEYS.

MR. W. P. WESTELL's note (*antea*, p. 137), recording the fact of Rooks building in chimneys, does not make it quite clear whether the Rooks built inside the chimney or on the top. It may be of interest to record that in 1904 three Rooks' nests were built on the chimneys of the (then) Empire Music Hall, Brighton. These nests were built entirely on the top of the chimney, and the heads of the sitting birds could be seen from the street. Just opposite, in the Pavilion grounds, there has been a rookery for many years.

HERBERT LANGTON.

[In all previous accounts of Rooks nesting on chimneys the nests have been described as being built *on the top* of the chimneys and not inside. For this reason I was inclined to think that the nests described by Mr. Westell might be those of Jackdaws, as he stated that they were built inside the chimneys, but he asserts positively that they were Rooks', and that a nest with eggs was taken and given to the Letchworth Museum.—F. C. R. J.]

LESSER REDPOLLS BREEDING IN HERTFORDSHIRE.

WITH reference to the note under this heading in the October issue (*antea*, p. 116), since I came to live in the Hitchin district about four years ago, I have seen Lesser Redpolls regularly in I believe every month of the year. In 1914 I came upon a nest in Hitchin, from which the young had flown, and I knew of two separate colonies of five or six pairs each breeding the last two summers, although I did not look for nests. The birds were flying round in their characteristic way, singing above the tree-tops, and had time been available nests could I am sure have been found.

From these notes I look upon the Lesser Redpoll as a regular breeder in north Hertfordshire. J. BEDDALL SMITH.

COLLARED FLYCATCHER IN SUSSEX.

Two male Collared Flycatchers (*Muscicapa collaris*) were shot at Hollington, near St. Leonards, on May 15th, 1916, and were examined in the flesh by Mr. Ruskin Butterfield. These and the two obtained near Winchelsea in May, 1911, are the only authentic British occurrences.

J. B. NICHOLS.

SAVI'S WARBLER IN SUSSEX.

A MALE Savi's Warbler (*Locustella l. luscinioides*) was shot at the old brickfield in West St. Leonards, on May 30th, 1916. It was examined in the flesh by Mr. Ruskin Butterfield and also by Mr. H. W. Ford-Lindsay. Except for those which occurred in Fair Isle in May, 1908, this seems to be the only *authentic* occurrence of the bird in the British Isles since about 1856.

J. B. NICHOLS.

LATE NESTING OF SWALLOW IN CARNARVONSHIRE.

WITH reference to Mr. Dewhurst's note on the late nesting of the Swallow (*antea*, p. 137) and the editorial note thereon, it is probable that particular pairs breed habitually later than others. This year (1916) I found a brood of four fledged young in the nest on September 7th, and last year there were young in the same nest a few days earlier, no doubt by the same pair. This nest was of the entirely unsupported type, being attached to the sawn—and so comparatively smooth—side of a floor joist in the middle of a low unceiled room in an isolated barn on Morfa Dinlle, Carnarvon. A quantity of long dried grass was worked in with the mud and hanging so as almost to conceal the nest, a marvel of strength and constructional skill. It would appear that those Swallows that build in this manner do not make use of the more normal sites, for in this same building there were many such, and apparently much more suitable and safer than that selected.

S. G. CUMMINGS.

SAND-MARTINS NESTING IN DRAIN-PIPES.

At the beginning of June, 1916, Miss Enid Turner pointed out to me a drain-pipe projecting out of a wall over the river at Cambridge whence she had seen a Sand-Martin (*Riparia r. riparia*) fly out. Later on in July I discovered a small colony nesting in the drain-pipes in the wall overhanging the Cam close to Clare Bridge. The young were nearly fledged and the old birds could be seen feeding them at the mouths of the pipes. There were either three or four pairs of birds which were thus making use of a nesting site which I think is unusual in the Sand-Martin.

MAUD D. HAVILAND.

[Though the fact has not perhaps been recorded, it is within the knowledge of one of us that Sand-Martins were nesting in the pipes mentioned by Miss Haviland between 1893 and 1897, and probably in previous and subsequent years. The site is very unusual, but it may be pointed out that drainage

pipes put into a bank purposely for Sand-Martins by Waterton were used as nesting places by these birds (cf. Yarrell, II. p. 358, Ed. IV.). One of us has also known of a similar successful experiment.—Eds.]

UNUSUAL NUMBER OF EGGS IN A NIGHTJAR'S NEST.

With reference to the note on page 139, I may mention that in 1878 or 1879 I found a Nightjar's nest with three eggs on Cobham Heath. They were not taken, and the state of incubation is unknown. On this property (Temple Combe) we have more than once seen both Stock-Dove's and Wood-Pigeon's nests with three eggs. HEATLEY NOBLE.

[Mr. A. B. Farn had a clutch of three Nightjar's eggs in his possession, one of which proved to be infertile. See also *Zool.*, 1884, p. 90, where two other instances of broods of three are referred to. For instances of Stock-Doves' and Wood-Pigeons' nests with three and four eggs see *Brit. Birds*, Vol. IV., pp. 155 and 316.—F.C.R.J.]

ON THE POSSIBILITY OF THE BUZZARD REARING TWO BROODS IN ONE SEASON.

MR. A. H. MACHELL COX suggests (*antea*, p. 143) that a pair of Buzzards (*Buteo b. buteo*) reared two broods in the time which elapsed between April, 1914, when the nest contained eggs, and August 30th, 1914, when the two young finally left the nest. As the Buzzard is a fairly regular breeder and the average date for a full clutch is between April 24th and 28th, we may take the approximate date of laying in this case as April 26th. The incubation period lasts about thirty-one days, which would take us to the end of May.

Everything, therefore, depends on the length of time the young birds remain in the nest. This naturally varies to some extent, but the only absolutely reliable and definite figures with which I am acquainted are those of Mr. H. B. Macpherson, who made very careful observations on a pair which nested in Scotland, and states that they remained in the nest for nine weeks and two days! This certainly seems an extraordinarily long period, and it seems just possible that it was slightly prolonged owing to the disturbance caused by frequent visits and long periods of watching. The birds watched by Mr. Macpherson flew on July 30th, and if we take his figures as a guide, the young should have been hatched by May 27th, and would leave the nest on July 31st. In Mr. H. E. Forrest's *Vertebrate Fauna of North Wales*

it is said that the fledging period is about four weeks. My own observations led me to believe that this is much below the mark, and on writing to Mr. Forrest he tells me that the statement in question is erroneous, and that he estimates the period as six weeks, but unfortunately the issue of the Supplement containing the correction has been delayed owing to the war.

Taking the lower estimate, this would bring the date of leaving the nest back to July 8th, leaving only seven and a half weeks for the Buzzards to refine the nest and lay a fresh clutch of eggs, incubate them for a month and then rear the young! On the basis of Mr. Macpherson's figures the time allowed for this is only a month.

Even if we presume that the eggs were laid exceptionally early, a few moments' consideration will show that it is absolutely impossible that two broods should have been reared within these dates.

There is, however, another and a simpler explanation. Mr. Cox states that the birds were not disturbed, but this can only be known with certainty when the nest is inspected at regular intervals. Probably what really happened was that the first clutch of eggs was taken, but that the birds, instead of moving to an alternative nesting site as is usually the case, laid again in the same nest after an interval of three or four weeks, and brought off this second laying successfully.

F. C. R. JOURDAIN.

ARCTIC SKUA IN NORTH LANCASHIRE.

RICHARDSON'S Skua (*Stercorarius parasiticus*) has so seldom been recorded in north Lancashire that it may be of interest to state that one was shot on October 11th, 1916, inland at Bolton-le-Sands, near Carnforth. It was a female of the dark variety and not quite adult. Mitchell, in his *Birds of Lancashire*, deals with the species in two lines, viz. : "Has been shot from October to April, but is not common, and away from the coast is very rarely seen." The taxidermist who set this specimen up has only had three through his hands during his long experience.

H. W. ROBINSON.

REVIEWS

A Study of the Structure of Feathers, with Reference to their Taxonomic Significance. By Asa C. Chandler. University of California Publications in Zoology, Vol. XIII., No. 11, pp. 243-446, pls. 13-37. April 17, 1916. Published separately.

THIS important paper is divided into two parts, the first dealing with the structural modifications of various kinds of feathers, and the second with special group characters, modifications and peculiarities arranged in systematic order.

In the first part the author discusses the occurrence, distribution and structure of plumules of various kinds, of filoplumes and of all the different contour feathers. He then proceeds to show what different modifications occur in feathers of different groups of birds to produce the same results so far as colour is concerned. In this connexion Mr. Chandler made a very interesting discovery in the case of an albino Mallard. In a normal Mallard certain parts of the feathers of the violet-blue speculum are highly modified for the production of the colour. In the albino not only was there no pigment, but this modification was entirely lacking and the structure of the feathers of the speculum was like that of normal feathers in which there is no modification for colour. The factors causing pigment and specialization of feather structure for the production of colour would thus seem to be intimately associated.

The second part of the paper is the more important and original, for no previous attempt has been made in a systematic way to use differences in the minute structure of feathers, as revealed by the microscope, as guides in the classification of birds. Our present knowledge of the subject is so imperfect that any additional sign-post to the true relationships of birds is indeed welcome. Mr. Chandler has here, after enormous labour and great research, presented us with a new guide which demands most serious consideration. The author's methods of investigation seem to have been very thorough. He found that so far as species of the same genus were concerned, there was no considerable variation in the feather structure as a rule, while generic differences were usually so slight as to form no good basis. In all groups higher than genera, however, he states that differences, though in variable degrees, may almost always be detected, though it is necessary to compare the structure of feathers from the same parts of the body.

Mr Chandler has compared his results with the classification of Knowlton and Ridgway, which is much the same as that used by Gadow. He states that the evidence brought forward by his examination of feathers strongly supports the grouping above mentioned, but suggests certain modifications, some of which are of special interest to us as students of British birds.

We are very glad to see that Mr. Chandler insists on the necessity of basing classification on all the available characters, and we congratulate him on having shown by his research that the minute structure of feathers provides a hitherto untried and valuable guide.

H. F. W.

Report on Scottish Ornithology in 1915, including Migration.

By Evelyn V. Baxter and Leonora Jeffrey Rintoul.

Forming the July and August, 1916, issues of *The Scottish Naturalist*.

Scotch ornithologists are to be congratulated on having performed much good work during 1915, notwithstanding the war, and in having such very competent chroniclers as is evidenced by this Report.

When noticing these reports in previous years, we have remarked on the excellent system upon which they are drawn up. We do not see that the arrangement could be bettered, but if we may make one little criticism we would suggest that the county or group of islands in which the localities are situated should be given. It frequently happens that localities producing interesting ornithological news are deemed of no importance to map-makers. Hence there is often considerable difficulty in discovering where these places are, and if only as an aid to southern readers (we doubt if all Scotch ones would scorn it) we would ask the authors to consider our suggestion with favour.

The following items from the Report worthy of special note have not been published previously.

HAWFINCH (*Coccothraustes c. coccothraustes*).—One in Kirkeudbrightshire on July 23rd.

SISKIN (*Carduelis spinus*).—One at Flannan Isles (Outer Hebrides) on October 5th, and one at Butt of Lewis on the 9th. The Siskin is seldom reported from the Outer Hebrides.

BRAMBLING (*Fringilla montifringilla*).—Three were on the Island of Noss (Shetlands) on July 4th.

ORTOLAN BUNTING (*Emberiza hortulana*).—Single birds at Fair Isle on October 6th and 16th and November 1st.

LITTLE BUNTING (*E. pusilla*).—One at Pentland Skerries on October 12.
WOOD-LARK (*Lullula a. arborea*).—At Fair Isle three on January 5th and one on the 8th.

SHORE-LARK (*Eremophila a. flava*).—One at Hoy High (Orkneys) on March 25th.

BLUE-HEADED WAGTAIL.—At Fair Isle either *M. f. flava* or *M. f. thunbergi* occurred on October 16th, 18th or 26th.

YELLOW WAGTAIL (*M. f. rayi*).—One at the Island of Noss on May 21st.

PIED FLYCATCHER (*Muscicapa h. hypoleuca*).—At the Flannans one on September 17th, and at the Butt of Lewis, one on the 20th and another on October 10th. This species is rarely reported from the Outer Hebrides.

GARDEN-WARBLER (*Sylvia borin*).—One at the Pentland Skerries on May 24th should be noted as the bird has seldom been recorded in the Orkneys in spring.

BLACKCAP (*S. a. atricapilla*).—One at Butt of Lewis October 11th to 15th.

LESSER WHITETHROAT (*S. c. curruca*).—One at the Pentland Skerries on October 9th.

MISTLE-THRUSH (*Turdus v. viscivorus*).—Two at Barra Head (Outer Hebrides) on April 14th.

RING-OUZEL (*T. t. torquatus*).—At the Butt of Lewis lantern on October 19th.

REDSTART (*Phoenicurus ph. phoenicurus*).—In the Outer Hebrides, where it is a rare visitor, one at the Butt of Lewis on May 15th, and "Passage migration is reported steadily from stations in the Northern Isles and Outer Hebrides from 20th to 27th September and 5th to 22nd October." One at Pentland Skerries on November 7th—a very late date.

BLACK REDSTART (*Ph. o. gibraltariensis*).—Most unusual numbers of Black Redstarts were recorded in 1914, while in 1915 there were considerably more than the average. One found dead at Little Ross (Kirkcudbrightshire) on March 4th, and one near Glasgow on May 9th, are particularly interesting, as the bird is very rarely noted on the west side of Scotland. Others were:—Isle of May, one on April 30th, Tarbatness (Ross-shire), two on September 26th, Pentland Skerries, single birds on April 26th and May 4th and small numbers between October 8th and 24th.

BLUETHROAT (*Luscinia suecica*).—One at Fair Isle on October 8th.

HOOPOE (*Upupa e. epops*).—One on the Pentland Skerries on May 19th.

SNOWY OWL (*Nyctea nyctea*).—One seen at Little Ross on February 4th.

BARN-OWL (*Tyto alba*).—A Barn-Owl, of which race is unknown, was reported from Galson (Outer Hebrides) on March 5th. So far as we know there is only one previous reliable record of the Barn-Owl for the Outer Hebrides.

SHAG (*Phalacrocorax g. graculus*).—A breeding record interesting to compare with those given in Mr. Jourdain's article (*Brit. B.*, VII., pp. 97-8) is given (p. 155) as follows:—A pair at the Butt of Lewis had their nest nearly built on March 22nd, this was destroyed and another built and eggs laid by May 5th. After the first brood had left the nest, the latter was "replenished" and three eggs were laid and hatched about September 5th, two young were still in the nest on October 24th, one left on the 31st, and the last not until November 6th after the old bird had pulled the remains of the nest off the ledge.

SOOTY SHEARWATER (*Puffinus griseus*).—Single birds at Butt of Lewis on July 19th and 25th.

GREY PLOVER (*Squatarola squatarola*).—On September 11th and 12th at Galson, in the Outer Hebrides, where the bird is a rare visitor.

GREEN SANDPIPER (*Tringa ochropus*).—Single birds at Fair Isle and Swona (Orkney) early in August.

WHIMBREL (*Numenius ph. phaeopus*).—One at Fairlie (Ayrshire) and one at Galson in January are interesting winter occurrences.

H. F. W.

BRITISH BIRDS

With which is Incorporated
"THE ZOOLOGIST."

EDITED BY H. F. WITHERBY, F.Z.S., M.B.O.U.

ASSISTED BY

REV. F. C. R. JOURDAIN, M.A., M.B.O.U., AND NORMAN F.
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"THE ZOOLOGIST."

As will be seen from the title of this issue, the well-known and old-established natural history monthly, *The Zoologist*, having been acquired by the Proprietors of *British Birds*, is now incorporated with this magazine. While we welcome this union as an accession to our journal, we can but deplore the cessation as a separate publication of our aforetime contemporary, which has had so long and honourable a career of usefulness. The *Zoologist* was established in 1843 by Edward Newman, who edited it until his death in 1876. From 1877 to 1896 the journal was conducted by Mr. J. E. Harting, and this was no doubt its most flourishing period so far as ornithology is concerned. From 1897 to 1914 Mr. W. L. Distant was editor, and in 1915 he was succeeded by Mr. Frank Finn.

So far as the future of our magazine is concerned, we do not propose to make any serious change in its scope or policy. It will still be devoted entirely to Birds, and it is with regret that we must exclude from its pages all other branches of Natural History which found a place in *The Zoologist*. We propose, however, while still specializing in the birds of the British list, slightly to enlarge our scope by admitting a limited number of articles and notes on the avifauna of other parts of the western portion of the Palæarctic Region or, in other words, of Europe and north-west Africa. We feel that without neglecting anything which adds to the store of knowledge of our own birds, we may with advantage and added interest go sometimes beyond our shores for observation, study and comparison of the birds to be found there.

THE EDITORS.

NOTES ON THE BREEDING-HABITS OF THE RED-BACKED SHRIKE.

BY

J. H. OWEN.

IN the Felsted (Essex) district the Red-backed Shrike (*Lanius c. collurio*) used to be a fairly common bird, but varied considerably in numbers from year to year. In 1911 I saw fourteen nests within quite a small radius of the school. Since then, however, the numbers have decreased very much and in the last five summers have only averaged three to four pairs. About here the birds build in tall, somewhat loose, but wide fences or in fairly compact isolated bushes; the latter is the favourite site.

In Essex the bird is usually called the "larder-bird." I have seen larders containing bees, beetles, wasps, small mice and small birds up to the size of a fully fledged young Robin. The young Robin I saw was beheaded and impaled by a thorn through the skin of the neck. A few inches from it another thorn held a bee. While I was near this larder the cock Shrike brought another bee, but on seeing me he was scared, and the next day I found the larder was empty. I think the cock is responsible for the larder, and it is usually made during the incubation period. When the young are hatched their needs, with those of the parents, prevent an accumulation of surplus food. I have watched birds put an occasional beetle, bee or other insect on a thorn during the nestling period, but I have never seen a proper larder made then. The larders are not very far from the nest, rarely as far as thirty yards, and never, I believe, above fifty, but the distance depends on whether there is a suitable bush for a larder near the nest. The larder, in all cases I can recall, has been on the side of the bush facing the nest. The eggs, numbering three to six, rarely seven, are laid daily, and incubation lasts from fifteen to sixteen days, and is performed by the hen only as far as I have been able to see,

The bird is single-brooded, but if the eggs are taken the hen will lay again very soon. It is extraordinary how quickly a robbed bird will begin to lay again, even if the eggs have been well incubated, and how near the second nest is to the first. I remember a bird which, when robbed the first time, built a new nest a few yards away, and when this was taken, the eggs being on the point of hatching, she returned to the same bush which she had used for the first nest. The hen is a fairly close sitter as a rule, and especially as incubation advances. On the other hand, individual birds (as in other species) vary very much in the amount of molestation they will endure. Some birds will desert the nest very readily, even when the eggs are highly incubated, and others will put up with almost anything.

The old birds feed the young on beetles (chiefly), bees, wasps, bluebottles, spiders, flies, caterpillars, and snails. I have also known them bring stuff which looked like rotting animal matter and may have been from a mouse or bird in the larder. An insect is not broken up. It is killed by chewing or by beating against a branch, gate or stone and is then offered whole to a young one. If the latter cannot swallow it, the old bird seizes it again and chews it vigorously, thus decreasing the girth and increasing the length. Often the insect (such as a beetle) has to be picked up and chewed several times before the young bird can swallow it, and the parent bird shews great irritation as the chewing has to be repeated. Of course there are many parts of beetles, bees, bluebottles, etc., which are impossible for a nestling to digest. These parts are thrown up in the form of pellets and are often of amazing size compared with the bird that throws them up. When the nestling is young it cannot eject such a pellet and the old bird has to lift it out of the gape. It then carries it away and drops it, usually after it has perched on one of its favourite alighting spots. Both cock and hen feed the young and clean the nest, remove pellets, etc., though at first the hen spends most

of her time brooding and only goes off for a short spell now and then. The cock, when the hen is on the nest, hands the food over to her and she pauses, sometimes for as much as a minute, with it in her bill to decide whether it shall be for her or the young. Both birds swallow the dung of the young at first, but later on it is more often carried away and dropped, than eaten.



RED-BACKED SHRIKE: THE COCK IMMEDIATELY AFTER ALIGHTING WITH FOOD.

(*Photographed by J. H. Owen.*)

The hen has a curious habit, while brooding the young, of suddenly leaving the nest for an interval of any length up to quite a quarter of an hour. Sometimes these departures are, I think, to meet the cock for food and sometimes she hunts herself. After a short absence she usually returns without food and broods; after a long absence she usually goes away again immediately, and very often she and the cock will bring food very rapidly for the next few minutes. When she comes back to brood she usually gives a single "cheep" near the nest

before coming to it. When she is brooding the cock heralds his approach with a repeated "chee-uck" or "chu-ik, chee-uck." She answers with a "chi-ee-i" and at the same time half rises from the nest and rapidly flutters her wings, opens her bill and indeed acts just as a fledged nestling would. This curious performance is also gone through when she is perched. Although the hen often eats the food under these circumstances this is not invariably the case. At other times when the cock brings food the hen calls him with "chee-ay, chee-ay," the "ay" being hardly audible. When this note is used she does not flutter her wings, but may swallow the food herself or pass it on to the young. This fluttering of the wings is not confined to the hen, but the cock also does it when on one of his favourite perches, of which there are usually two or three near the nest. It is rather like a courtship action and this would seem especially to be so when first one bird of a pair and then the other performs the action on the same perch.

The young, like the adults, have a variety of notes. The food-call they first make is impossible to put into letters. At the age of ten days, they greet the parents with "chuck, yuck, yuck, yuck," and "ee-uk, ee-uk," When they are almost ready to leave the nest, their food-calls are "chic-chic-chic" and "cheec-cheec-cheec-chuc-chuc-chuck." When they have left the nest it becomes "kee-uk, kee-uk, kee-uk." They then have an alarm note, "tick-tick-tick," and a very similar call "chic-chic-chic." If they are in hiding, after they have left the nest, and want food very badly, they utter a succession of notes, "che-uk, chee-uk, cheeee-uk, cuck, chuck, cheek, cheek, cheek, cheek." If the hiding places of the young are approached, the hen becomes very noisy with the "chack, chack" alarm note. At each syllable she flirts her tail sideways or switches it up and down. As it moves sideways the feathers on that side fan out and the feathers of the other half close, but in the up and down movement the whole tail is

slightly spread. The throat is puffed out at the same time.

The young are born blind and have no down. The inside of the mouth, tongue, and flanges are all yellow ;



RED-BACKED SHRIKE : THE HEN AT THE NEST. WAITING TO TAKE FROM THE YOUNG PELLETS OR DUNG. A VERY CHARACTERISTIC ATTITUDE.

(*Photographed by J. H. Owen.*)

no spots on the tongue ; the roof of the mouth and the palate are spurred, but not the base of the tongue. Their eyes begin to open on the fifth day. At five days old no quills are through, but the wings have tiny hairs instead of flight-feathers. At seven days the quills of the wings and tail are through, and the fledging-period is complete in fourteen to fifteen days, but the young will

leave the nest on very little provocation when they are only twelve days old. After they have left the nest the whole brood go about in a party until the time for migration, and keep somewhere in the neighbourhood of the nest.

I have watched both old birds throw up pellets just like the young. They often catch their prey, especially bees, wasps, flies, etc., with the same swoop from a perch that the Flycatchers use. They appear to swallow wasps or bees without ever troubling about the sting after they have beaten the insect thoroughly against a branch or something of the sort.

SUPPOSED BREEDING OF THE BARNACLE-
GOOSE IN ICELAND.

BY

HEATLEY NOBLE.

WHEN in Iceland in the summer of 1913, we came across a general dealer, who was said to take an interest in birds. We called on him and were shown several boxes of common eggs for sale. There was nothing of any interest and we were leaving his store when he took up a bird book, and with a grin pointed to a very poor figure of *Branta leucopsis*. This man could talk no English, little Icelandic and only Danish, which our guide could hardly understand, but we made out that he had a nest and five eggs of the Barnacle-Goose. I told him this bird had never been known to breed in Iceland, and begged him, as well as I could, to let me see the clutch. After some hesitation and a good deal of pressing in various languages, he produced a box, carefully locked up, which on being opened contained five eggs and a considerable amount of down. Now the eggs of the Barnacle-Goose are very well known to me, and so is the down, as tame birds used to breed regularly on our lake. I have plenty of down and also eggs, so that I was not quite in the dark and I have no hesitation whatever in saying that those eggs were laid by a Barnacle-Goose. The down is unlike that of any other European Goose with which I am acquainted; the eggs are small, very white and have no gloss, in fact, are quite rough. The feathers in the nest were very marked and could only have come from the species named. I offered to purchase the clutch, but the old man absolutely declined to entertain any idea of parting with his treasures. Our guide did what he could to find out what he was going to do with them; he declined to make any remarks on the subject, locked up his eggs and politely hinted we could go. I thought it quite

possible these eggs might have come into his possession from Greenland, and made numerous enquiries as to whether ships ever came into the port where we were staying from that country. We were informed that they were quite unknown, and there was no traffic between that part of Iceland and Greenland. I had an idea that possibly our merchant's reticence and suspicion might be due to his not quite understanding the mixture of languages in which we tried to address him, consequently on our return to England I had a letter sent in Danish asking if he would kindly give me any particulars as to the finding of the nest and repeated my offer to purchase the set should he be disposed to sell. The following is a translation of the letter I received which perhaps may be of sufficient interest to put on record:—

“HONOURED SIR,—In answer to yours of 15th I would say that some years ago, about 1909, I was convinced that the Goose species “Enneltuir” [*leucopsis*] laid its eggs here, as one autumn I was able to shoot here on the burn Blanda, a pair of young ones which were hardly able to fly, and therefore could not have come from so far away as Greenland. This was as well as I could remember at the end of August, that is near the time the Geese usually migrate. On enquiry I found that the bird had laid its eggs by a small burn higher up in the valley north-east of—, and as the mother was with the young ones I was convinced that the bird was a straggler which had laid its eggs later than usual.

“Later on I got eggs of other species of Geese—*segetum* [*cinereus*] and *albifrons*—and through correspondence with a now deceased ornithologist, Dr. Ottagson in Sweden, who wanted me to make excursions in the north-western part of Iceland to search after eggs of the Helsingi Goose which he was convinced laid its eggs there, I also became convinced the eggs were to be found. My time was too valuable, and my position too dependent for me to make the long excursions necessary in this matter, and although he offered to defray all expenses

I could not undertake the journey. It was not possible either to find anybody here who knew the birds, and on whom one could rely, as the interest here in these things is so small.

"In 1911 I got some eggs which from size and the nest feathers I could see were not the Helsingi Goose. In 1912 I made an excursion and obtained the five Helsingi eggs which you saw, and which I believe are the first and only ones found in Iceland. I hoped that I should again find eggs this year, and made two journeys in May and June but without any luck, as only the other kinds of geese were to be found.

"Perhaps I make another excursion next summer to see if I cannot find these eggs, but I will do it myself.

"I am also convinced that *Calidris arenaria* and *Tringa cinerea* [I suppose he means the Knot] breed here, as I have seen young ones which I am convinced belonged to that kind, and people here cannot tell these birds from others as they are not interested in the subject."

I forgot to mention that the head and neck of a female *B. leucopsis*, said to have belonged to the bird from the nest, were with the eggs. Unfortunately the situation of the nest was not given. In Greenland and Spitsbergen these birds have been found nesting in cliffs, but there are no rocks in this part of Iceland worthy of being called cliffs. As stated by Howard Saunders (*Manual*, 2nd. ed., p. 410) a pair of Geese, which the late Professor Collett was convinced were Barnacles, bred for several successive years on one of the most northern of the Lofoten Islands off the west coast of Norway. These Geese built "sometimes on the narrow ledges of the rocks, and sometimes in a sheltered locality under stones or isolated rocky masses" (*cf.* Dresser, *Birds of Europe*, Vol. VI.).

The geese of Iceland have always been a mystery; the only species we saw were Grey Lags, but we were told of a certain spot where White-fronted Geese bred regularly, and I know many clutches have been sent to this country,

said to belong to that species. Another interesting piece of information, obtained from a duck farmer at Myvatn, was to the effect that in a district some forty miles from "anywhere" three species of Geese bred in such numbers that two men, working night and day took over a thousand eggs! The reason that they had to be so busy was that the nesting season being in May, at which time there is no grass for the ponies, they have to carry all provisions with them and make a dash for it. This duck farmer, (who had been there himself) knows the birds well and was sure there were three kinds. The Grey Lag he would know as he showed us a nest; White-fronted he understood from our description; the third he said was smaller and *might* turn out to be the Pink-footed Goose. I hope some day to explore this district personally, but it is a bad place to get to at that time of year and there are many awkward rivers to cross.

NOTES

UNUSUAL NESTING-SITES OF PIED WAGTAIL.

ON May 28th, 1916, in the garden of Mr J. Beddall Smith at West Hill, Hitchin, Herts, I found in a laurel bush a nest of the Pied Wagtail (*Motacilla a. lugubris*) (containing four eggs) built inside an old nest of a Song-Thrush. The site seems the more extraordinary, as within a few yards of it were several stacks and some old ivy-covered walls.

A still more unusual nesting-site for the Pied Wagtail was that of two nests, each containing six eggs, found by Mr. W. E. Renaut and myself on May 20th, 1911, at Icklingham, Norfolk. These nests were built on the ground in young fir plantations, under, and well protected by, the lower wide-spreading branches of the trees.

P. B. SMYTH.

[In the *Zoologist*, 1904, p. 421, in a short paper on the breeding habits of the Pied Wagtail, I showed that the habit of building inside nests of other species was commoner than was generally believed to be the case. Nine instances were cited in which nests of the Redbreast, Swallow, Song-Thrush and Blackbird were utilized. Subsequently two more cases came to my knowledge and were recorded *tom cit.*, p. 456. Mr. R. H. Read added two further records in the *Zoologist* for 1905, p. 33, and also gave an instance of a genuine Wagtail's nest built in a hedgerow, so that at least fourteen cases of this habit of adopting other birds' nests have now been recorded. Of these no fewer than seven refer to the Song-Thrush; four to the Blackbird; two to the Redbreast and one to the Swallow. A nest of a Pied Wagtail on the ground in the sandhills in Norfolk was recorded by Mr. C. D. Borrer (*Brit. B.*, IX., p. 26) and I have seen nests similarly placed in the dunes on the Dutch coast (*loc.*, 48).—F. C. R. JOURDAIN.]

NESTING-HABITS OF WILLOW-TITS.

IN the *Club van Nederlandsche Vogelkundigen* (Jaarbericht, no. 5, 1915, pp. 20-38) Mr. H. C. Siebers, a painstaking Dutch ornithologist, has an interesting illustrated article on the nesting habits of the form of Willow-Tit (*Parus atricapillus rhenanus*) found in Holland and western Germany. Of this Baron Snouckaert van Schauburg has very kindly provided us with a résumé which will, we think, interest our readers, as the bird is very nearly allied to our British form

of Willow-Tit and seems to have the same distinctive nesting-habits as compared to those of the Marsh-Tit.

Mr. Siebers finds that the Dutch Willow-Tit inhabits plantations of willows near rivers and marshes or fir plantations. In the former it bores a hole for nesting purposes in a pollarded willow, but in the latter, finding the wood of the fir too hard for boring, it resorts to softer wood in the immediate neighbourhood, and frequently makes use of a somewhat rotten fence post.

Mr. Siebers found the nests to be built mostly of scraps of bark, rabbit fur and a few feathers. In one case there was an underlayer entirely of moss, but in a second case there was very little moss, and in a third some moss was interwoven with the material on the outside of the nest. Mr. Siebers found that an underlayer of moss was not an essential condition for the nest of this Willow-Tit.

The breeding period seems to be from April to June, but principally in May. The eggs are said to be more boldly blotched, especially at the thicker end, than those of the Marsh-Tit, but this would seem to be a variable character.

Mr. Siebers's observations should be compared with notes on the nesting-habits of the British Willow-Tit which have been published from time to time in this journal (*cf.*, Vol. VII., pp. 116, 141, 171, 198 ; Vol. VIII., pp. 69-74).

LATE NESTING OF WREN.

ON October 10th, 1916, I was passing through a stackyard on a farm at Maryport, Cumberland, when some boys brought me a nest which they had just pulled down from one of the stacks. The nest was that of a Common Wren (*Troglodytes t. troglodytes*) and contained four fresh eggs. The stack in which the nest had been placed had only been built a fortnight, so that apart from the freshness of the eggs there was ample proof that the nest was a new one.

W. J. ANDREWS.

LATE BROOD OF MARTINS.

IT may be of interest to record that on October 19th, 1916, I watched a pair of House-Martins (*Hirundo u. urbica*) feeding young in the nest at Borough Green, Kent.

C. W. COLTHRUP.

LATE STAY OF CUCKOO.

ON December 1st, 1916, I saw a young Cuckoo (*Cuculus c. canorus*) at dusk near Swindon. I flushed it several times out of the top of a pipe which carries rain water from the roof of Lydiard Millicent Rectory. It persisted in returning

to its refuge, and finally retired there for the night. On December 2nd, the same thing happened in the evening, and I left it there. Indeed it was too high up to examine. It has not been seen since, though others have told me that it was about the garden for a week or so before the two dates mentioned. I have no doubt as to the species, though the bird's proceedings were most abnormal. There was a sharp frost at the time, doubtless the cause of its seeking shelter in so strange a place.

D. PERCY HARRISON.

[We believe that this is the latest date hitherto recorded for the Cuckoo in the British Isles; the latest previous record being November 26th, 1900, when one was obtained at the Skulmartin lightship, co. Down.—EDS.]

SEVEN EGGS IN NEST OF TAWNY OWL.

ON March 4th, 1915, Mr. A. Mayall found a Tawny Owl (*Strix a. aluco*) sitting on four eggs, in a hollow tree in Bomere Woods near Shrewsbury. He revisited the nest on March 26th, when he found the same (or another) bird sitting on seven eggs. He caught and ringed her. He again visited the nest on April 26th, when there were four young owls in it, but no trace of the other three eggs. He again caught the old bird (which had no ring on its leg) and put a ring on it. On May 3rd he photographed the owlets; the old bird was very aggressive, and attacked fiercely, flying at his head, striking twice and drawing blood each time. The above is a brief statement of facts, and they present a very interesting problem for ornithologists. The normal clutch in the Tawny Owl is three or four, very rarely five. How came there to be seven in this nest? I think there can be little doubt that there were two distinct clutches of four and three eggs respectively, with a possible interval of three weeks between the layings. The question arises then—were they laid by one and the same, or by two different birds? It is evident from the sequel that the four first laid hatched out, while the three laid subsequently disappeared. The fact that Mr. Mayall ringed a sitting bird on March 26th, while the one on the nest a month later had no ring on its leg, seems to suggest that there were two birds occupying the same nest. On the other hand, the bird first ringed may have got rid of the ring in the meantime. A further possibility is that the first bird met its death in the interval, and the male bird secured a new mate immediately. Such events are of frequent occurrence amongst the *Falconidæ*, but do they happen in the *Strigidæ*?

H. E. FORREST.

BUZZARDS IN BERKSHIRE.

ON August 5th, 1916, a brilliantly fine afternoon, about 2 p.m., I caught sight of five or six large birds soaring at a great height over my house at Appleton, Berkshire. Against a cloudless sky it was not easy to distinguish the wing pattern, even with glasses, but their broad wings and soaring flight in a series of intersecting circles without any apparent movement of the wings, served to identify them as Buzzards (*Buteo buteo*). There were six of them altogether, and they kept close to one another, slowly drifting away till out of sight. They had the square-cut tail characteristic of the Buzzards as opposed to the Kites, and I could not see any sign of the dark subterminal band so noticeable in the Rough-legged Buzzard. As the Common Buzzard still nests in Hampshire they may have been a family party from the New Forest. Otherwise the nearest breeding places are in Somerset, east Devon and the South Wales border. F. C. R. JOURDAIN.

BITTERN IN CO. TYRONE.

A BITTERN (*Botaurus s. stellaris*) shot near Coalisland, co. Tyrone, on December 2nd, 1916, has been sent to Messrs. Sheals, the taxidermists of Belfast, for preservation. On dissection it proved to be a female and it should be noted that the feathers of the head and neck were in a state of moult. The ovaries of the bird were in a diseased state and the stomach contained a perch nine inches long.

WM. C. WRIGHT.

SHAG INLAND IN SOMERSET.

ON the afternoon of November 9th, 1916, a Shag (*Phalacrocorax g. graculus*) was shot at Winscombe in Somerset by Mr. T. Vowles, as it was sitting on the ridge of the roof of his house. I had the opportunity of examining the bird in the flesh, and it proved to be a young bird of the year in good plumage and condition. Winscombe, I may say, is about seven and a half miles in a direct line from the nearest point of the Bristol Channel in an easterly direction. Although this bird has been occasionally reported at much greater distances from the sea than this, its occurrence anywhere inland is of sufficient rarity to be worth recording. But in addition to this, as a Somersetshire bird the Shag was unknown up to 1893, when the Rev. Murray Mathew published his "Revised List of the Birds of Somerset" (*Som. Arch. & Nat. Hist. Soc. Proc.*, Vol. XXXIX). It was added in the following

year on the strength of a single example obtained (*Zool.*, 1894, p. 267). Since then I have ascertained that it is more frequent in the county than was supposed and I hope later to give further details. I may add that on the night previous to the capture of the bird above mentioned there had been a strong gale from the west, which may have accounted for its being driven inland.

J. WIGLESWORTH.

DOTTEREL IN NORTH WALES.

As there are but few records of the Dotterel (*Charadrius morinellus*) in North Wales, it may be worth noting that in August, 1916, I picked up the desiccated remains of one on Morfa Dinlle, Carnarvonshire. It was an adult, but the plumage was much damaged and a good deal of it missing. The bird had probably been killed by flying against a telephone wire which ran near the spot where I found the remains.

S. G. CUMMINGS.

BLACK-TAILED GODWIT AND OTHER WADERS IN CARNARVONSHIRE.

ON August 28th, 1916, while watching birds in Foryd Bay—a wide expanse of salt-marsh, mudbanks and sand at low tide, and a favourite resort for waders and other water-fowl—about three miles south of Carnarvon, I had a good view through a telescope of a Black-tailed Godwit (*Limosa limosa*) in almost complete summer plumage, standing at the edge of the water at high tide in company with Redshanks. It was not feeding, but now and again moved its position as the water rose, or preened its feathers and occasionally stood on one leg with head over its back and eye closed. So far as I know, this is the first recorded occurrence of the bird in Carnarvonshire.

On this same estuary, amongst other birds, I also saw a party of ten Grey Plover (*Squatarola squatarola*)—three males were in their full conspicuous breeding plumage—twelve Greenshanks (*Tringa nebularia*) in scattered parties of twos and threes, Curlew-Sandpipers (*Erolia ferruginea*) and Golden Plover (*Charadrius apricius*), apparently all birds of the year. These last arrive in this locality about the first week in September, the Grey Plover being the first to arrive of the two; their average date is, I make it, August 10th. A few Whimbrel (*Numenius phaeopus*) were seen in the district, a pair flying over on August 1st.

S. G. CUMMINGS.

LITTLE AUK IN WILTSHIRE.

A LITTLE AUK (*Alle alle*), which had evidently been killed against a wire fence, was picked up by a beater at Lower Woodford on December 1st, 1916, and was sent to me for identification by Mr. C. W. Gater of Winterbourne Dauntsey. There are six previous records for the county.

G. BATHURST HONY.

COMMON PARTRIDGE PERCHING ON A WALL.

INSTANCES of Common Partridges (*Perdix p. perdix*) perching on walls are not usually found reported, so it may be of interest to note that I saw one sunning itself in such a position on the morning of October 19th, 1916, in north Staffordshire, the remainder of the covey basking amongst the grass beneath.

Of course Red Grouse and Pheasants are frequently seen on walls, and so are Black Grouse. On the other hand, Partridges occasionally are seen in trees, and I have seen Red Grouse resting amongst the branches of scotch firs.

T. SMITH.

RED-BREASTED FLYCATCHER AND BLACK REDSTART IN ORKNEY.—Mr. J. Bain records (*Scot. Nat.*, 1916, p. 293) the occurrence on Swona of a *Muscicapa p. parva* on September 29th, 1916, which, curiously enough, was sitting on the same ledge of rock as a bird of the same species which he recorded in 1915 (*cf. Brit. B.*, Vol. IX., p. 303). Mr. Bain also notes the presence of a *Phoenicurus o. gibraltariensis*, but does not give any date.

PIED WHEATEAR IN ORKNEY.—Mr. John Bain makes the interesting announcement (*Scot. Nat.*, 1916, p. 293) that he obtained a female *Enanthe p. pleschanka* on November 1st, 1916, on the island of Swona. This is only the second recorded British occurrence, the first being at the Isle of May on October 19th, 1909. Mr. W. Eagle Clarke follows (*loc. cit.*) with a description of the first winter female, in which state of plumage this example was obtained.

NIGHTJAR IN LEWIS, OUTER HEBRIDES.—Mr. D. Mackenzie states (*Scot. Nat.*, 1916, p. 288) that he received an example of *Caprimulgus e. europæus* on July 18th, 1916, from Bragar, Barvas. There are only two previous recorded occurrences of the bird for the Outer Hebrides.

HOOPOE IN AYRSHIRE.—Mr. C. Kirk states (*Scot. Nat.*, 1916, p. 294), that a female *Upupa e. epops* was obtained at

Monkton on September 30th, 1916. The Hoopoe rarely occurs in Scotland, especially on the western side.

SPOONBILLS ON THE BORDERS OF NORFOLK.—Although the Spoonbill (*Platalea l. leucorodia*) occurs annually in Norfolk it is interesting to note the months of its appearance. Mr. A. H. Patterson states (*Zoologist*, 1916, pp. 371-2) that two Spoonbills frequented Breydon in 1916 for a week in the middle of May and three in the middle of July (*cf. antea*, p. 66).

PROBABLE BREEDING OF GADWALL IN MIDLOTHIAN.—Mr. W. Evans records (*Scot. Nat.*, 1916, p. 189) that he saw from April to June, 1916, a pair of *Anas strepera* on a reservoir in south-west Midlothian. From their behaviour he felt certain they were breeding, but he failed to find a nest. Mr. Evans states that this duck does not appear to have been recorded previously for Midlothian.

COMMON SCOTER BREEDING IN IRELAND.—We are glad to be able to state on excellent authority that in 1916 a number of pairs of Common Scoters (*Oidemia n. nigra*) bred on the lough in Ireland originally discovered as a nesting-place by the late Major Trevelyan in 1905.

TURTLE-DOVES IN COS. DUBLIN AND MEATH.—The Rev. Dr. C. W. Benson states (*Irish Nat.*, 1916, p. 169), that *Streptopelia t. turtur* has occurred for the last three years in the neighbourhood of Balbriggan and in 1916, on May 24th, at Ardgillan Castle, afterwards at Hampton Hall, and on June 13th at Gormanstown. There is no evidence that the birds bred. The Turtle-Dove is a scarce visitor to Ireland, and has occurred most often in May and June, but it is doubtful if there is a really satisfactory record of its having bred.

SPOTTED REDSHANK IN FIFESHIRE.—Mr. W. Berry records (*Scot. Nat.*, 1916, p. 287) that a young male *Tringa erythropus*, a rare visitor to Scotland, was obtained by him on September 8th, 1916, near Tayport. He had observed two of the birds in the neighbourhood on August 30th.

SNIPE CARRYING YOUNG.—Mr. W. J. Nash states (*Irish Nat.*, 1916, p. 170) that on his bog near Lissoy he saw a Snipe (*Gallinago g. gallinago*) rise from a mud-bank in a bog-drain carrying a young one, and fly about thirty yards with it. The bird flew with difficulty, and before it alighted the young

one had slipped down and was apparently being held by the head only. The old bird during its flight appeared to be supporting the young one with its bill and feet, and was "all doubled up, its bill meeting its claws." Mr. Nash subsequently found a drowned young one in the bog-drain and presumed that the young had been frightened into the drain by a dog, which was hunting about near at hand. The sides of the drain being high and steep, the young birds could not get out, but the one rescued by the old bird had managed to reach a mud-bank just above the level of the water.

OBITUARY.

CAPTAIN LORD LUCAS.

It was reported that Lord Lucas was missing after making a flight over the German lines on November 4th, 1916, and subsequently his death was announced. Lord Lucas, the son of the late Hon. Auberon Herbert, was born in 1876, and succeeded to the baronies of Lucas and Dingwall on the death of his uncle, the last Earl Cowper, in 1905. Lord Lucas rowed in the Oxford boat in 1898 and 1899. During the Boer War when acting as correspondent of *The Times*, he was wounded and his leg had to be amputated below the knee. But this handicap had an extraordinary small outward effect on his activity, even in cross-country walking. After holding several Under-Secretaryships, Lord Lucas was appointed President of the Board of Agriculture in 1914, but on the formation of the Coalition in May, 1915, he resigned and joined the Royal Flying Corps. His courage and temperament eminently fitted him for flying, and although many years over the standard age for this arm he soon became a skilful pilot.

Lord Lucas was an ardent lover of Nature, and especially of birds, and was elected a member of the British Ornithologists' Union in 1902. It may be mentioned that he took a considerable interest in our Marking Scheme, and only the other day we had news of an interesting record of the recovery of a Lapwing ringed by him some four years ago.

RICHARD JAMES BALSTON.

We much regret to announce the death of Mr. R. J. Balston of Bilsington Priory, Ashford, and Springfield, Maidstone, Kent, on December 7th, 1906. Mr. Balston was seventy-eight years of age and was head of the firm of Messrs. Balston, Ltd., manufacturers of the celebrated "Whatman" papers. He was an ardent yachtsman and was well known in the county as a keen sportsman and for his assistance to agriculture, Mr. Balston also took a great interest in ornithology, and had been a member of the British Ornithologists' Union since 1889. He was one of the authors of *Notes on the Birds of Kent* published in 1907, but we believe that his share in the writing of this work was small. A few years ago Mr. Balston presented to the British Museum a large and important collection of Humming-birds, both skins and mounted specimens, which are now at the Natural History Museum, Cromwell Road.

THOMAS HUDSON NELSON.

Ornithologists generally and especially those interested in Yorkshire birds, will be grieved to hear of the death of Mr. T. H. Nelson, well known as the author of *The Birds of Yorkshire*, which occurred on November 5th at Harrogate. We hope to publish in our next issue a notice of Mr. Nelson with a portrait.

REVIEWS

A Bibliography of British Ornithology from the Earliest Times to the End of 1912. By W. H. Mullens and H. Kirke Swann. Parts III. and IV. (1916, 6s. each net.)

In a previous notice of Parts I. and II. of this work (*antea*, pp. 98-100) we have made some remarks on the general plan of the book which it is unnecessary to repeat. The two parts which are now before us fully maintain the standard reached by the earlier issues and the number of omissions is remarkably small, considering the scope of the work. We notice, however, the same tendency to devote unnecessary space to obscure authors, who have contributed little or nothing worthy of remembrance, while on the other hand some of the most prominent workers are somewhat cursorily treated. As an example, we may mention that the same amount of space is allotted to the biographies of Walter Moyle and George London, whom few readers will recognise as ornithologists, as is given to Dr. Hartert, whose *Vögel der palaäarktischen Fauna* is certainly the most important ornithological work of this generation. Even now there is no other work which gives us clear descriptions of the differences which characterize our British local races of birds. We doubt, however, whether much of his fame is due to his "numerous entomological papers," as stated on p. 270.

The name of Mr. P. C. M. Kermode is omitted from the list of collaborators in the Reports on the Migration of Birds (pp. 132, 145, 281, etc.).

We notice no reference to Mr. J. H. Gurney's "Notes on the Great Auk" (*Zool.*, 1869, pp. 1639-43).

Dr. E. Hartert's paper "On Birds represented in the British Isles by peculiar Forms" (*Br. B.*, I., pp. 208-22) is omitted.

Mr. J. A. Harvie-Brown's letter on "The Effect of Food Supply upon Fecundity," *Br. B.*, III., pp. 252-254 (not 5), was not written in collaboration with Mr. P. F. Bunyard, as stated (p. 283), and no mention is made of the second part of "Rough Notes from the Channel Islands" by the same author (*Zool.*, 1869, pp. 1630-32).

The name of W. Horn, who published a small pamphlet entitled "Collected Notes on the Birds of Buchan," is omitted.

We do not notice any reference to Mr. F. B. Kirkman's article on "Variation in the Nests of the Arctic and Common

Terns," in *Br. B.*, II., p. 78-82, 101-108 (1908) or to his paper on "The Bird Watcher's Guide," *op. cit.*, IV., p. 8-13 (1910).

For "Singleton-in-the-Fyle" (p. 348) read "Singleton-in-the-Fylde."

Dr. McAldowie's "Birds of Staffordshire" (p. 365) is a re-issue with fresh title of a paper published in the *Transactions* (1893), Pt. II., of the North Staffordshire Naturalists' Field Club, and included in the *Annual Rep. and Trans. of the N. Staffs Field Club* for 1893.

Mr. J. R. B. Masefield is the author of two of the Educational Leaflets issued by the Roy. Soc. Prot. Birds (Nos. 17 and 23), and Sir H. Maxwell contributed (in collaboration with Lord Lilford and Mr. O. V. Aplin) an article to *Ornithology in Relation to Agriculture and Horticulture* (1893).

The biographical notice of Mr. E. G. B. Meade-Waldo omits all notice of his travels and ornithological work in the Canaries and Morocco. Mr. W. L. Mellersh contributed the article on Wildfowling to Vol. II. of the *Victoria History of the Co. of Gloucester* (p. 301), published in 1907.

Mr. E. B. Michell contributed an article on "Modern Falconry," with 11 illustrations by G. E. Lodge, to the *English Illustrated Magazine* for 1885-6, p. 653.

We think there is some confusion on p. 405 between the Badminton Library volumes on Shooting (which were mainly illustrated by Charles Whymper) and the *Letters to Young Shooters* (Third Series), to the third volume of which Mr. J. G. Millais contributed many illustrations of British wildfowl in 1896. Several of the title pages and plates in Messrs. Harvie-Brown and Buckley's series of *Vertebrate Faunas of Scotland* are by the same artist.

The account given of the publication of the *Birds of York shire* (p. 432) is not correct. As stated in the editorial note, the publication of instalments of this work in the *Transactions* of the Yorks. Nat. Union was abandoned and the work recommenced entirely anew. Mr. Pycraft's contributions to the *British Bird Book* are not specified, although some of them were issued prior to 1912. On the other hand, by some oversight, three short notes by Mr. Pycraft, ranging from 8 to 13 lines in length, have been admitted, though in accordance with the plan of the work they should have been excluded. For "Kerinode" (p. 484) read "Kermode." No mention is made of Mr. F. C. Rawlings' useful "List of Birds observed in the District of Barmouth," which appeared in the *Zoologist* for 1894, p. 328-335. The paper by Mr. P. G. Ralfe and F. S. Graves on "Birds observed in the Calf of

Man " appeared in the *Zoologist* for 1901 and not in the *Ibis* as stated (p. 485).

The asterisk by which works which deal with non-British species are denoted seems to be used rather erratically. Thus Mr. Parkin's pamphlet on the Great Auk (p. 457) is marked with an asterisk, while it is absent from Newton's papers on the same subject, and also from the *Ootheca Wolleyana*, in which are included many species outside the British List.

F. C. R. JOURDAIN.

British Birds. Written and illustrated by A. Thorburn, F.Z.S., with eighty plates in colour, $13 \times 10\frac{1}{2}$ inches. Four Vols., £6 6s. net. (Longmans). Vol. IV., 1916.

THIS is the concluding volume of Mr. Thorburn's work, and we must congratulate him and his publishers in having successfully completed so fine a work in these times of stress. This volume is chiefly devoted to Waders, Gulls, Terns, Skuas, Auks, Divers, Grebes, and Petrels.

The plates are perhaps even more crowded than those in the previous volumes, and this is especially noticeable in the Waders, where both summer and winter plumages have usually been given.

If we examine the whole series of plates given in the four volumes, and look at the drawings of each bird individually, we find that Mr. Thorburn has accomplished a remarkable task. Each drawing is bright and good, and the attitudes of the birds are varied and for the most part true to nature. The colouring is perhaps in many cases over-brilliant, but it is clean and put on by a master hand, and altogether these illustrations of the adults of the birds on the British list will not easily be surpassed.

H. F. W.



[Russell, Phot.]

F. C. Selous.

D.S.O., CAPTAIN, LEGION OF FRONTIERSMEN (R.F.).
Born December, 1851. Killed in action, January, 1917.

BRITISH BIRDS

With which is Incorporated
"THE ZOOLOGIST."

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FREDERICK COURTENEY SELOUS.

ALTHOUGH exactly fifty-one years ago, the recollection of my first sight of Selous remains as fresh and as striking as though of yesterday. It was at Rugby, in January 1866—a big boy, looking twice as big as his fellow-boys, with a big round face, already slightly hirsute. And Selous *was* big, even then ; big not only in physique but in mentality, energy and strength of individual character. It was not long before everyone in the *kosmos* which a great Public School represents—from Headmaster down to tiniest imps in “ Lower School ”—recognised that something exceptional, something phenomenal, had appeared on our stage. Soon rumours of Selous’s daring exploits awed the boldest—the classic feats of Tom Brown and “ Scud East ” by comparison seemed child’s play. It would be strictly inaccurate to regard these wild ventures as breaches of school rules ; since no rules that ever were framed quite contemplated the contingency of such heroic deeds. Long years later I was present at an Old Rugbeian dinner in London, when the honoured guests of the evening were our former Headmaster, Dr. Temple (then, I think, Bishop of London) and Selous. In his speech, the latter referred to one of his raids on the heronry at Combe Abbey—a place which, if I remember aright, was quite ten or a dozen miles distant from Rugby and therefore quite outside all conceivable schoolboy range. Then he told how, on the way home (his pockets bulging with Herons’ eggs and other oological plunder), having recognised afar the tall figure and striking gait of our austere Headmaster—his fellow-guest—he took prompt cover behind a friendly bush and watched the dreaded “ Doctor ” pass within a yard ! Well I remember how the Bishop—soon to become Archbishop—joined in the laugh.

On the other hand, if Selous did break a few rules, at least he fairly forced the school to break its own rules in his favour. Despite the hardest, most honest and conscientious school-work, the faculty of mastering classics had been omitted from his constitution—proving that that is no complete criterion of ability—and at times he fell below the arbitrary standard that fixes a definite relation between a boy’s age and his position in the schools. To meet the exceptional case “ superannuation rules ” had to go by the board ! The same thing occurred in the field of sport. At football, Selous *had* to be given his “ Cap ” in his first season—a breach of all those unwritten laws that are the stronger by virtue of their

purely traditional character. It was the only such "breach" perpetrated during my five years at Rugby!

Soon after his school-days—I think both Dr. Temple and Selous (with the present writer) left Rugby together, at Christmas 1869—Selous plunged into Africa and our ways for awhile lay apart. But the chronicles of his wild adventures of that period, his ceaseless struggles during twenty years with savage men and more savage beasts, are they not all written in his own unequalled volumes? Let those who possess them cherish them as pure gold. No such books existed before nor, with a transformed Africa, can such ever be written again. I am not forgetting that other explorers had preceded Selous—splendid men, too, typical of the best of our race. These stalwart pioneers—such as bluff and breezy Baldwin, Gordon Cumming, Cornwallis Harris and the rest—also wrote, and their narratives, gloriously rough and inspiring (I know them by heart!) have a true historic value, since much that they told can never be told again. But in them "natural history" only blurts out as it were by accident—unconsciously. The advent of Selous on the African stage changed all that. Merely as a hunter, none of his predecessors surpassed him*: but far more than that, Selous was a born field-naturalist and a trained observer whose keen eye missed little, nor—to a marvel—did his pen fail to record. How and when in those strenuous decades of forest-life in the far interior he found time to keep in touch with contemporary knowledge, to preserve with his own hands a multitude of mighty specimens, and to record day by day each and every observation, great or small, in notes written under such conditions, taxes our imagination—but he did it. That fact evidences an aptitude for hard work—superadded to the hardest of lives—and a resolution that never faltered or wasted a single hour.

Among his published works, fain would I mention one—a book that breathes the spirit of the naturalist on every page, an analysis of carefully tested observation, and of that cautious deduction that never overpasses its proved bases by an inch. I refer to his *African Nature Notes and Reminiscences*, written in 1908 on the suggestion of President Roosevelt.

In Africa Selous paid comparatively little special attention to birds, though butterflies attracted him to the very last.

* In one of the weekly journals appeared a paragraph implying that Selous was only a moderate shot. Surely it is common knowledge that he was one of the safest and most brilliant rifle-shots the world has ever produced; besides being a dashing rough-rider after every class of game, from elephants, giraffe, sable and oryx, down to cheetahs and wild dogs.

But no sooner had he settled in Surrey—so far as such a wanderer settles anywhere—than the attraction of bird-study at once leaped to his mind and he threw himself into it with all the zeal and fierce energy of his nature. I remember him declaring that the field-craft involved in “spotting” the nest of a single and scarce bird rivalled that of puzzling out a difficult spoor on African velt. One of those earlier springs, when he was coming to me here, he had written months beforehand fixing the precise dates and also specifying the birds whose nests he wished me to “mark” for him in advance, though not an egg was to be taken save by his own hand alone. I wish I could find that letter! It set forth in precise detail his programme from March to July, the pre-ordained routes including flying journeys to and fro across these islands from Orkney and Shetland, Caithness and Kent, Nottinghamshire, Northumberland and Norfolk—and I know not where else. The first bird we tried for here was the Wood-Wren. Howard Saunders happened to be staying with me and our trio set forth to the spot where, as instructed, I had previously located a breeding-pair, though the date (May 27) was rather too early for a nest. The locality was a steep slope heavily wooded with tall trees (ash, oak, wych-elm and birch), mostly in full leaf, amidst which it was difficult enough to keep an eye on a tiny warbler trilling in the topmost summits. Yet I don’t believe that Selous ever lost sight, save for transient seconds, and at the end of half-an-hour he came up and pointed to a hazel-bush growing on a ledge far above us and nearly 100 yards to the west. What he said was, “Beyond that hazel there must be a dip in the ground and in that dip about 6 or 8 feet beyond the bush, I think is the nest.” Incidentally he also mentioned that on the intervening slope a Robin was feeding young and a Wren was building. Having verified these minor facts as we ascended, we presently stood by the hazel. Beyond it was the dip foretold; but that dip was choked with fallen boughs, long dead grass and the wreck of last year’s bracken. Within brief seconds Selous said, “I see it.” Now Saunders and I had practised this sort of quest for many a year; yet *we* saw nothing. What Selous saw was—in effect—a mouse-hole deeply concealed behind six feet of obstructing grass and fern. But it *was* the nest of the Wood-Wren and a week later contained six eggs—now housed at Worplesdon. Presently Selous called to me that he had found another nest but had failed to identify the owner as she skulked off through the scrub. Before him grew a bed of rank nettles full 3 feet high. I asked him how he knew exactly where the nest was. He

pointed out *one* displaced nettle-leaf, and it wasn't in the top storey either! The nest belonged to a Blackcap and was more than a foot beneath the tell-tale leaf. I can recall dozens of such instances. No sign, however insignificant, eluded his eye. In this way within a few years (aided by visits to Spain, Transylvania, Bosnia, Asia Minor, Iceland, etc.), he amassed an amazing collection of eggs of the rarer British birds and the methodical neatness of the collection was no less amazing than its amount. He collected solely in "clutches" and always insisted on having the full number in each selected clutch.

On one occasion when grouse-driving, Selous saw two Peregrine Falcons pass over, very high, mere specks in air. None of the other six guns had noticed them; our gaze was presumably limited to the level of game-flight. Selous scanned the whole arc of Heaven. His observation, however, was soon verified by the keeper who, a mile away, had seen the "hunting hawks" and subsequently they were observed frequenting those moors for a month or more.

These local incidents may seem trivial; so I turn to Newfoundland where on a preliminary visit (in 1900) Selous was repelled (as I was) by the traditional but unenterprising—not to say unsportsmanlike—method of shooting the caribou on their migrations. He struck straight away from beaten tracks and at once his quick observation discovered evidence that these splendid deer frequent regions further south than had hitherto been suspected. That discovery of Selous has practically revolutionized the more intelligent pursuit of deer-stalking in our oldest colony. Nothing in this marvellous man's career strikes me more strongly than the fact that, after spending the best of a lifetime in Africa, he yet developed such superabundant energy as to accomplish almost equal feats of exploration, endurance and hunting-craft, not only in Newfoundland, but right across British North America to the Yukon, as well as in Sudan and Asia Minor. His superb big-game trophies from each of these regions would alone have earned separate recognition were they not, as it were, eclipsed by his own still greater deeds in Africa. Ere war broke out, we had already booked passages together for another African voyage (to Sudan) and his letters since insist on that plan being carried out "if we're both alive when war ends."

As a typical example of Selous's marked ornithological acumen, may well be recalled a series of short articles contributed by him to the first volume of this magazine. I have just re-read them and regard them as models of skilled and careful work. Then as regards entomology, it merits record

that only last summer (1916), when invalided home from East Africa, he brought back a notable collection, all captured during the brief interval of midday rest when all, save he, were seeking relief from incessant hard work and the appalling heat of an equatorial sun.

By merest chance I to-day came across a letter written from Scotland in the autumn of 1913, wherein occurs this sentence:—"A collecting trip that includes birds, beasts, insects, etc., is infinitely more interesting than any merely shooting trip. Here, during the long waits between grouse-drives, I was always wishing myself back in the forests under Mount Kenia, collecting butterflies, for there every moment was full of excitement."

At the January meeting of the British Ornithologists' Club, it was resolved to initiate, in co-operation with other learned societies of which Selous was a member, a fitting memorial to our gallant friend. A Committee under the Chairmanship of Mr. H. J. Elwes, F.R.S., was appointed and that assured success awaits the proposal can confidently be foretold.

Upon those who enjoyed it, Selous's friendship exerted a magnetic influence—strengthening, stimulating, straightening. Beneath that modest and gentle exterior—devoid of self-assertion, disdainful of pride or pretence—none but realized the forcefulness of the soul within, whole-hearted, true, and of single purpose—to "make good." His very death—"killed in action" at 65—epitomizes his whole career. Maybe it formed an appropriate climax, but alas! that never again shall we look into those straight blue eyes.

ABEL CHAPMAN.

THOMAS HUDSON NELSON.

WITHIN sound of the sea, on a November afternoon we laid to rest, at Redcar, all that was mortal of Thomas Hudson Nelson. No man loved this neighbourhood better, no man knew it so well. Of Seafield and the estuary of the Tees he could have said :

*Ille terrarum mihi præter omnes
Angulus ridet ;*



THOMAS HUDSON NELSON, M.B.O.U., MASTER OF SCIENCE (*honoris causa*).

Born Feb. 12, 1856. Died Nov. 5, 1916.

There is more reason to rejoice over his life than to lament that he was not spared to become old. His life was complete in the best sense. Three score years had passed over him, yet to his contemporaries he appeared young, for age had not chilled his blood nor had illness, in a long-drawn fight, subdued the courage of his heart. Thus Nelson was himself to the end. A few minutes before the attack which ended

in death, he wrote a letter to a young friend at Salonika, who had asked for information about the birds there. A short time before this, I had mentioned, in a letter to him, that a Cleveland farmer had given the name of "Kowscot-hawk" to a Merlin which had risen from the moor in front of us; when Nelson was in fact actually dying he was anxious to dictate a reply in order to tell me that he had heard this name applied to another species, but this effort was forbidden.

Nelson's life was spent very bravely and gently, it was full of kindness; his days were passed with unflagging industry in the most fascinating of pursuits and he enjoyed to the full all real sport that came within the limits of his strength.

Although his name may not be placed among the first of our scientific ornithologists or field naturalists he has left an imperishable one amongst lovers of Nature in Yorkshire* and a memory ineffaceable in the hearts of his friends. The range of his mind and tastes was too great to allow him to specialize or to become engrossed in the purely technical side of the science he loved. The whole field of nature was embraced in his passion, not merely were the birds, their lives and their haunts his study, but he delighted in the folklore and legends, in the superstitions and in old or quaint allusions, indeed he loved every accessory of his chief pursuit. His assiduity in the search for information was remarkable. Only a part of his harvest was gathered from books and correspondence, the rest was his own gleaning. His heart went out to all nature lovers; he made friends in every class. The fishermen and boys came to his door with any new or strange bird or beast and many were the natives of the district who brought him "khabar" from the sea, the shore

* T. H. Nelson was formerly an active member of the Yorkshire Naturalists' Union, acted as referee in ornithology for *The Naturalist* for a number of years and was a member of the B.O.U. from 1882. Among T. H. Nelson's many contributions to the literature of ornithology since 1877 may be mentioned the following: 1. *The Birds of Yorkshire*, in two vols., pub. 1907. The title page (in Nelson's generous way) associates the names of W. Eagle Clarke and of F. Boyes with the work; they no doubt acted as consultants and gave him help, but it is only fair to Nelson to quote what he wrote to me when the book had been published: "I often wonder now how the work was finished, particularly as Eagle Clarke and Boyes have been so much occupied that they could not give me the assistance I expected" (see also letter by W. E. Clarke to *Brit. Birds*, Vol. I., p. 233). 2. Nesting of the Ruff in Yorkshire—*Ibis* 1906, pp. 735-6 (describing nesting at the Teesmouth, 1901, 1902, 1903, etc.) 3. Pallas's Sand Grouse in Yorkshire in June, 1908—*Zool.* 1908 p. 312 and *Brit. Birds*, II., p. 134. 4. Little Bunting in Durham—*Ibis*, 1903, p. 139. 5. Little Bunting in Yorkshire—*Brit. Birds*, VII., pp. 196-7.

and from far inland. The poorest working lad was welcomed, as indeed everyone was who came for help or information. An old fisherman still tells how in the early days Nelson always slept with a string tied to his foot, the other end of the string hanging out of the window, so that at dawn the fishermen might wake him, when there was "anything particular about" in shore, at the Sears or out at sea.

The *Birds of Yorkshire* is more than a monument of industry; it is scientifically sound, scrupulously honest, has saved much of value which otherwise would have been irretrievably lost and is replete with local history, colour and incident. Only an ornithologist full of local enthusiasm, with an artist's sense and an antiquarian's joy in the discovery of any little treasure hidden in old-world places and dialects could have written it. One trait in Nelson's character was very striking; even when sure of a fact he shrank from being dogmatic, and he would try to find reasons for any discrepancies between the experiences of others and his own. I never knew him show contempt for the ignorance of anyone, he would rather find an excuse for error. A refined nature recoiled from hurting in the slightest degree the feelings of any other man. He was indeed one of the most lovable of men, for there was that in him which called forth at once in any kindred spirit a flood of satisfaction and response. His friends remained his friends; it could not be otherwise. Nelson took a great interest in the Redcar Lifeboat and crew; the latter preceded his body to the grave and his funeral was also attended by members of the North Riding Constabulary. As a County Magistrate he brought to the discharge of his duties a judicial mind and an understanding heart. In politics he was an ardent Unionist. He married in 1898 Miss Frances Shaw. Mrs. Nelson survives him. His married life was one of absolute content and perfect happiness.

Thomas Hudson Nelson was born on the 12th February, 1856, at Bishop Auckland. His father, Ralph Nelson, was born there, and at the age of eighty-five died there greatly honoured in the old town as a leading citizen and magistrate. His mother (*née* Hudson) died when Nelson was only ten years old; he was the second of three sons. Nelson's boyhood seems to have been greatly influenced by a Head Master of King James's Grammar School who in those days was known in Bishop Auckland as "Mr. Edward Keruen Limoclan," but who actually was the French Marquis de Keruen de Limoclan who had been compelled to fly from France during the War of 1870. Of Limoclan, Nelson always spoke with

love and admiration, declaring him to have been one of "the cleverest and one of the most perfect gentlemen he had ever known." Nelson became head boy at this school, and the Head Master would have had him take Holy Orders but the boy had no wish for this though he remained a thorough Churchman. He took up the Law as a profession—and then, before he came of age, illness struck him down and left such injury to his heart that he received the sentence, as he stood on the threshold of a life full of promise, that he must abandon his career, live more or less as an invalid, quit his home, and leave the hills and woods, where he had already developed his love of nature and of bird life. All this was a most bitter trial, but he took up his cross and bore it with inspiring cheerfulness. Neither these trials, nor the loss of his two brothers in early life, to one of whom he was devotedly attached, nor yet the death of his only baby boy, impaired his courage or changed his happy nature. The doctor's order that he must live on level ground brought him to Redcar. He found himself in a richer field of observation and study, and thenceforward he proceeded with his work in a more scientific way. Redcar and the Teesmouth were then ideal stations for an ornithologist.

The terrible changes which have impaired the natural charms of the Yorkshire coast had yet to come. I myself as a boy have played alone on beaches where now thousands of trippers throng, when seals still basked in the Teesmouth; down the coast naked cliffs rose upright out of the sea, further south high and lonely moors "ran out" on the lofty edges of the iron-bound shore. Through some forty years Nelson sailed over the waters, walked the mud flats and the links, visited the nesting places of the sea fowl or went inland to the mountains, valleys, meres, tarns, streams and woods of Yorkshire, seeing, remembering and noting all.

Towns now smother the old fishing villages, hotels stand on the slopes and heights, mine shafts open on the cliffs, and locomotives shriek along what was the coastguards' and sailors' "trod." Nelson came in from his last walk to the South Gare for once depressed, and saying that all was ruined by the new steel works and defences. The immediate future has worse in store for those who loved that neighbourhood "as it was." There is some compensation in the thought that he will not look out to sea to find furnace smoke blotting the blue divide between sea and water, nor wander on a slag-strewn strand, nor walk among the soot-grimed grass across the familiar sandhills.

He is never more to be met again where on quiet days the waves murmur and ripple forward to their end, or where on wild ones they surge and thunder on the beach. No more will he listen to the cries of the sea fowl, nor watch for the visitors from overseas, he will look no more down Bempton, Buckton and Speeton cliffs when next summer comes, but he will be found again in the pages of his book. Down Time's stream runs the influence of a brave example and of a happy life. He gave to the living and bequeathed to the unborn a better knowledge of, and a greater joy in all our Yorkshire birds from the rarest to the most familiar of "God's jocund lyttel fowles."

ALFRED E. PEASE.

ON THE EUROPEAN FORMS OF THE CORMORANT AND LITTLE BUSTARD.

BY

ERNST HARTERT, PH.D.

I. THE CORMORANT.

UNTIL I came to study the Palæarctic Cormorants last year, it had not generally been understood that there existed, in Europe, two quite distinct forms of *Phalacrocorax carbo*, though as long ago as 1824 C. L. Brehm separated the large and small subspecies, but then, by separating a third form and again in 1831, when he recognized four races, two large and two small ones, he went, as usual, too far, and therefore ornithologists became accustomed to throw all his forms into the melting-pot of synonyms.

The fact is, that two forms are easily distinguishable, and they may be diagnosed as follows:—

(1) PHALACROCORAX CARBO CARBO (L.)

COMMON CORMORANT.

Pelecanus Carbo Linnaeus, Syst-Nat., Ed. X., 1, p. 133 (1758—“Habitat in Europa.” Restricted terra typica: Western coasts of Scandinavia. See *Nov. Zool.*, 1916, p. 293).

Synonyms: *Carbo vulgaris* Lacepede 1790; *Carbo Cormoranus* Meyer and Wolf 1819; *Carbo glacialis* Brehm 1824; *Phalacrocorax Carbo major* Nilsson 1835; *Graculus americanus* Reichenbach 1850; *Phalacrocorax carbo, c. macrorhynchus* Bonaparte 1857.

Larger: bill from end of frontal feathering 68-77, sometimes even 82, wing 340-360 mm. Underside deep blue-black, almost purplish blue. Bill thicker, more powerful.

HABITAT: Greenland, Iceland, Færoes, Scotland with its islands, Scandinavia and north Russian coast to the Kola Peninsula, also Ireland, England and Wales, but it seems that in England, at least in autumn and winter, also *Ph. c. subcormoranus* and perhaps intermediates are

found. North American breeding birds, from Greenland to Nova Scotia, also belong to *Ph. c. carbo*.

This Cormorant is generally sedentary, even as far north as Iceland and Greenland, and it breeds chiefly on rocks, but in Ireland also on trees. In former times colonies of Cormorants nested on trees in Norfolk and Suffolk, but it is impossible to say whether they belonged to the large northern or the smaller central European race. Some birds move southwards and it is probably this race which appears occasionally on the coasts of the Canary Islands and Azores, and in America it has been observed near New York, in Carolina and on Lake Ontario.

(2) PHALACROCORAX CARBO SUBCORMORANUS (Brehm).

LESSER CORMORANT.

Carbo subcormoranus Brehm, Ornith. I. p. 42 (1824—Holland).

Synonyms: *Carbo arboreus* Brehm 1831, probably; *Phalacrocorax Carbo medius* Nilsson 1835; *Phalacrocorax humilirostris* and *brachyrhynchus* Brehm 1855.

Smaller: bill from end of frontal feathering about 65-70, wing 330-356 mm. Underside black with a bluish-green gloss, not purplish.

HABITAT: Central and south Europe, from north Germany to the Mediterranean, hence eastwards to central and maybe east Asia, if *Ph. carbo sinensis* should not be deemed separable. Formerly nesting in Denmark and Blekinge, south Sweden, on trees. More migratory, or better less sedentary, than *Ph. c. carbo*, because frequently inhabiting inland waters which are frozen in the winter, wintering in Greece, on the Caspian Sea, and in Egypt, in small numbers in Algeria, once south to Biskra.

Breeds as a rule on trees, on certain lakes in south-east Europe among the reeds, on the coasts of Italy, Dragonera and in other localities also on rocks.

(For further notes see *Novitates Zoologicae*, 1916, pp. 293-295, 318.)

II. THE LITTLE BUSTARD.

The Little Bustard—if only on account of the beautiful tints of its coloration a most attractive bird, like every other Bustard—became much more interesting when studied more closely and more in detail.

Although I do not see the necessity for placing the Little Bustard in a separate genus, it differs in many ways from the Great Bustard, especially in the structure of the wing of the adult male. The wing of the female shows nothing out of the common. The first primary is much shorter than the second and in length between the fifth and sixth, the second and third are about equal and longest. The second to the sixth primaries have the outer webs wider at base, the narrowing beginning suddenly in front of the primary-coverts. The wing of the adult male is quite different. The first three primaries are like those of the female, but the fourth is quite extraordinary. It is about 2.5 cm. shorter than the third, and about 2 cm. shorter than the fifth. The outer web is, about the middle, so much narrowed that in one place it is only 1-2 mm. wide; the inner web is narrowed on its basal half and becomes suddenly wider in the middle, while about 18 mm. from the tip it is narrowed again. (See Plate II., *Nov. Zool.*, 1916.) Therefore, when the wing is spread out in flight, a small gap would almost certainly appear on the basal part of the fourth primary, and this would cause the piping sound which, according to observers, is heard with every beat of the wings during flight.

The seasonal changes are also much more striking than in any other Palearctic Bustard.

The Houbara Bustards do not show any material seasonal changes and have their extraordinary neck-frill all the year round, though it is more fully developed in the male, which is also a larger bird than the female. The Great Bustard loses its moustache, the hairy feathers on the pouch, and the chestnut feathers of the chest after the breeding season; there are then blue-grey

feathers on these parts, but in the early winter the nuptial dress begins to be gradually assumed, and the moustache, chestnut chest-band, etc., are complete before the spring approaches.

The male of the Little Bustard is strikingly different in winter and summer. In the winter it looks, on the upper side, almost exactly like the female, but the breast and abdomen are quite white, without black bars. This winter-dress is assumed during the complete post-nuptial moult. In the spring, chiefly in March and April, a second but only partial moult takes place, affecting only the whole head and neck, and apparently part of the back.

Thus the well-known lavender-grey, black-and-white coloration of the nuptial dress is assumed.

The adult female is alike at all seasons, having only the one complete moult in summer and early autumn.

Comparing western and eastern Little Bustards it becomes evident that two forms can be distinguished, as follows :—

(1) OTIS TETRAX TETRAX L.

WESTERN LITTLE BUSTARD.

Otis Tetrax Linnaeus, Syst. Nat., Ed. X., I., p. 154 (1758—"Habitat in Europa, imprimis in Gallia." Restricted terra typica therefore: France).

Upperside, especially on the upper wing-coverts, lighter, more reddish sandy. Wings ♂ 236-252, ♀ 245-247 mm.

HABITAT: Resident in Tunisia, northern and middle Algeria, Marocco, Spain, Portugal, the plains of Beauce, Champagne, Brie and Vendée in France, north to the fields between Chalons-sur Marne and Troyes. (The Bustards which—more frequently during the last thirty years—are occasionally seen in the Rhine districts, most probably come from France, and therefore belong to *O. t. tetrax*.*)

* In *The Zoologist*, 1906, p. 66, the Rev. C. W. Benson mentions birds which he saw in the northern Aargau (Switzerland), which he afterwards, when seeing stuffed specimens in Strassburg, believed were Little Bustards! Probably some error occurred, though it is difficult to see what he could have mistaken for young Bustards.

(2) OTIS TETRAX ORIENTALIS Hart.

EASTERN LITTLE BUSTARD.

Otis tetrax orientalis Hartert, *Nov. Zool.*, 1916, p. 339 (Ex A. E. Brehm, nomen nudum! Terra typica: Sarepta).

Upperside, especially on the upper wing-coverts, darker, less sandy, less reddish, markings as a rule coarser and blacker. Wings ♂ 250-258, ♀ 250-263 mm.

HABITAT: West Siberia, eastwards to Kainsk in the government of Tomsk, Saissan-Nor, Transcaspia, East Turkestan, Afghanistan, south Russian Steppes, north to the governments of Kieff, Poltawa and Podolsk, and perhaps Saratow, Samara and Orenburg. Greece, Rumania, the valley of the Danube to Austria, probably also Poland and East Prussia, in small numbers in the Mark Brandenburg; once breeding in West Prussia, at times (certainly between 1870 and 1900) in Thuringia. To this subspecies belong also the birds which nest in Puglie and Capitanata (near Foggia) in south Italy, probably also those from Sicily and Sardinia. Northern birds of this race are migratory, wintering in Mesopotamia, Syria, north-west India, Asia Minor, Cyprus, Egypt. Occasional stragglers have been observed in Scandinavia, the Russian Baltic Provinces, Ingermannland, Finland, Denmark, eastern Germany to Westfalia. Saxony, Heligoland.

(Cf. *Nov. Zool.*, 1916, pp. 337-339, where, however, by some unfortunate mistake, the measurements are reversed, the eastern subspecies being the larger, the western the smaller one!)

It would be most interesting to compare carefully all British killed specimens, in order to decide to which of the two forms they belong.

ON SOME RESULTS OF RINGING SONG- THRUSHES, BLACKBIRDS, LAPWINGS AND WOODCOCK.

BY

H. F. WITHERBY.

As promised in my report on the *British Birds Marking Scheme* for 1916 (*antea*, p. 152) I give below a summary of the records we have so far obtained bearing upon the important question of the movements or otherwise of those species which are usually regarded as partial migrants in the British Islands. I have selected the Song-Thrush, Blackbird, Lapwing and Woodcock as representative species in this category, because of these species we have had a fair number ringed and recovered. I have, however, only considered those birds which were ringed as nestlings and recovered in winter. Those ringed as adults in summer and recovered in winter are too few to make any useful comparison, so they are not included. The analysis of the records of recoveries of these species shows how necessary it is to ring very large numbers of birds, as only a proportion of all the records obtained can be used in working out any particular point.

It should be noted that severe weather may have (and probably has) a considerable effect on the movements of these species, but the records are insufficient so far to investigate this point properly. Nevertheless it is clear that some individuals of these species migrate and others do not and some of the species are more prone to migrate than others. The factors governing their movements and non-movements may yet be solved by persistence in ringing and by making it widely known that every recorded recovery is important. Meanwhile the following summaries must not be taken as conclusive in any way. They are simply intended as an interim report on this particular point.

BRITISH SONG-THRUSH (*Turdus ph. clarkii*).

Of Song-Thrushes ringed as nestlings in England and the southern half of Scotland and recovered in following winters we have twenty-four records. Exactly half of these have been found at or near home and half away. Those which were reported from Ireland, France and Spain were ringed on the western side of Great Britain, with the exception of one bird ringed in Yorkshire and found in France.

Apart from those recovered in winter, I may mention here that of ten Song-Thrushes ringed as nestlings and recovered in following *summers*, all were found at or near the place of their birth—eight in the following summer, and one each in second and third summers.

An interesting record which may also be referred to here is that of a Song-Thrush ringed in Westmorland in February and found in the following February in co Clare. This bird may of course have been an immigrant to Westmorland; the single record provides no proof whatever, but it suggests that these birds do not always winter in the same place each year, and in such cases weather conditions may be an important factor.

The following is a summary of the records of Song-Thrushes ringed as nestlings and recovered in winter.

Totals and Percentages.

Ringed as nestlings in England and Scotland	Total recovered. Near or at Home. Away.		
	24	12 or 50 %	12 or 50 %

Periods between Ringing and Recovery.

			Recovered at Home.	Recovered away.
In following winter	..	..	5	11
„ 2nd winter	..	..	3	1
„ 3rd winter	..	..	3	—
„ 4th winter	..	..	1	—

Extent and Direction of Movements.

Recovered in	Ireland, 6 from S.W. Scotland and Lancashire.
„	„ France, 2 from Lancashire and Yorkshire.
„	„ Spain, 1 from Lancashire.
„	„ Lincolnshire, 1 from Oxfordshire.
„	„ Norfolk, 1 from Berkshire.
„	„ Isle of Man, 1 from Northumberland.

THE BLACKBIRD (*Turdus m. merula*).

There are twenty-one cases of Blackbirds ringed as nestlings and recovered in winter. The proportion of these which moved is very small, as will be seen from the summary, compared to that in the Song-Thrush, only 28 per cent. having gone away as compared to 50 per cent. in the Song-Thrush. Here again Ireland is the most favoured wintering place.

We also have ten records of Blackbirds ringed as nestlings and recovered in following *summers*. All these, as in the cases of Song-Thrushes, were found at or near the place of their birth—six in the following summer and two each in the second and third summers.

Totals and Percentages.

	Total recovered.	Near or at Home.	Away.
Ringed as nestlings in England and Scotland	21	15 or 71·4%	6 or 28·5%

Periods between Ringing and Recovery.

	Recovered at Home.	Recovered away.
In following winter	7	5
„ 2nd winter	3	1
„ 3rd winter	1	—
„ 4th winter	4	—

Extent and Direction of Movements.

Recovered in Ireland, 3 from Dumfries-shire and Derbyshire.
„ „ France, 1 from Lincolnshire.
„ „ Pembroke, 1 from Stirlingshire.
„ „ Essex, 1 from Warwickshire.

THE LAPWING (*Vanellus vanellus*).

There are in all fifty-six cases of Lapwings ringed as nestlings and recovered in subsequent winters. As the number is a very fair one to work upon, and as the results are markedly different, it is worth while to show the returns for birds ringed in England and Scotland separately though it must be admitted that many of the English ones were ringed in northern counties. As will be seen from the summary which follows of those ringed in England, the percentage going away was only 57 as compared to 82 per cent. of those ringed in Scotland. As Lapwings usually move away from the actual spot where they breed, I have taken one which travelled

20 miles and another 25 miles as being found near home. while the shortest distance recorded of those included in "away" is 40 miles. The records are insufficient to show whether movement is influenced by weather conditions, but the fact that the majority of those reported at or near home have been before January 1st, while the larger number of those reported "away" have been after that date, is a slight indication that weather has an influence. On the other hand, movements even as far as France and Portugal in November are not very likely to have been influenced by severe weather. The summary shows that the main movement is to Ireland, though France and Portugal evidently claim a fair proportion.

Totals and Percentages.

	Total recovered.	Near or at Home.	Away.
Ringed as nestlings in			
England and Scotland	56	18 or 32·1%	38 or 67·8%
Ringed in England ..	33	14 or 42·4%	19 or 57·5%
Ringed in Scotland ..	23	4 or 17·3%	19 or 82·6%

Periods between Ringing and Recovery.

	Ringed in England Recovered at Home.	Ringed in England Recovered Away.	Ringed in Scotland Recovered at Home.	Ringed in Scotland Recovered Away.
Recovered in following				
winter	5	12	1	13
" 2nd winter	8	6	1	3
" 3rd winter	—	1	—	1
" 4th winter	—	—	2	—
" 5th winter	1	—	—	2

Extent and Direction of Movements.

				Ringed in England.	Ringed in Scotland.
Recovered in Ireland	..	..	..	5	14
" " France	..	..	..	2	3
" " Portugal	..	..	..	3	—
" " Spain ..	..	..	..	—	1
" " Morocco	..	..	..	1	—
" " Great Britain, S. or S.W. of place ringed, viz., Cheshire to Worcester, S. Wales, Devon and Cornwall; Dum- fries to Flintshire				4	1
" about 75 and 50 miles S.E. (Harro- gate to Lincoln, and same to Beverley)				2	—
" about 80 miles N.W. (Bodiam to Henley and North Preston to Dumfries)				2	—

THE WOODCOCK (*Scolopax rusticola*).

In the case of the Woodcock, with the exception of two birds, one of which was ringed in Stirlingshire and the other in Nairnshire, all those dealt with were ringed in south-west Scotland and north-west and north-east England, so that no geographical separation seems necessary. There are in all thirty-seven cases of recovery in winter of birds ringed as nestlings. It will be noticed from the summary given below that rather less than half were found at or near the place they were hatched and rather more than half at a considerable distance away, the nearest being thirty-five miles. Ireland claims much the largest proportion of those which moved. One ringed in Dumfries-shire as a nestling in May and found the following September in Elgin is a curious record. One might perhaps put this down to the bird having lost its direction. Unfortunately we have in no case a record of a recovery of more than one individual in a brood, but I might mention that of six birds all ringed as nestlings near Carlisle in May, 1911, and all recovered in the following winter, two were reported ten miles to the north and one twenty miles to the north-west (these I have counted as reported "near home"), while two were found in Ireland and one in Essex. Similar instances might be mentioned of Woodcocks ringed in the same place in the same month and recovered in the same winter in widely-separated localities, so that whether the birds move or not would seem to be an individual question (it may be hereditary, but for this we have as yet no evidence). This fact, and the general direction of Ireland in the case of movement, seem to be the outstanding points to be gathered from our records of the Woodcock, so far as they have gone. As compared to the Lapwings ringed in England, the proportions of those staying at home and going away are about the same.

Totals and Percentages.

	Total recovered.	Near or at Home.	Away.
Ringed as nestlings in N. England and Scotland	37	17 or 45·9%	20 or 54·0%

Periods between Ringing and Recovery.

	Recovered at Home.	Recovered away.
In following winter	14	14
„ 2nd winter	3	3
„ 3rd winter	—	2
„ 4th winter	—	1

Extent and Direction of Movements.

Recovered in Ireland, 14	from S.W. Scotland, Cumberland and Northumberland.
„ „	France, 1 from Yorkshire.
„ „	Essex, 1 from Cumberland.
„ „	Cornwall, 1 from Cumberland.
„	about 35 miles S., 1 Dumfries-shire to Cumberland.
„	50 miles due E., 1 „ to Northumberland.
„	175 miles N., 1 „ to Elgin.

RECOVERY OF MARKED BIRDS.

THE following have kindly sent in subscriptions towards the expenses of the Marking Scheme since the last acknowledgment was made : Mr. J. Bartholomew, Miss B. A. Carter, Dr. H. J. Moon, and Mr. W. C. Tait.

STARLING (*Sturnus v. vulgaris*).—80468, nestling, marked by Mr. A. T. Wallis at Rubery, Worcestershire, on June 29th, 1914. Reported by Mr. H. Matthews at Stourbridge, Worcestershire, on September 14th, 1916.

84255, adult, marked by Mr. T. Robinson at Oldham, Lanes., on Jan 24th, 1915. Reported by Mr. I. Cotton at Bardsley, Ashton-under-Lyne, Lanes., on Sept. 18th, 1915.

49567, adult, marked by Mr. T. C. Hobbs at Gosforth, Northumberland, on Oct. 25th, 1914. Reported by Mr. T. Bentham at the same place on June 11th, 1916.

86629, adult, marked by Mr. J. Appleby at Great Crosby, Lanes., on June 2nd, 1916. Reported by Mrs. L. S. Mellor at the same place on Nov. 20th, 1916.

GREENFINCH (*Chloris ch. chloris*).—M205, nestling, marked by Mr. C. T. Cobbold at Nursling, near Southampton, Hants., on July 5th, 1912. Reported by Mr. W. G. Fellows at Southampton in Jan., 1916.

AF1, adult, marked by Mr. J. R. B. Masefield at Roschill, Cheadle, Staffs., on May 20th, 1915. Caught again at the same place on June 9th, 1916.

BLACKBIRD (*Turdus m. merula*).—43852, nestling, marked by Dr. H. J. Moon at the Fylde, Lanes., on June 1st, 1913. Reported by Mr. G. Sargeant at St. Annes-on-Sea, on June 20th, 1916.

BRITISH REDBREAST (*Erithacus r. melophilus*).—M796, nestling, marked by Mr. J. R. B. Masefield at Cresswell, near Cheadle, Staffs., on April 30th, 1913. Caught again three miles away on June 18th, 1916.

HOUSE-MARTIN (*Hirundo u. urbica*).—Y407, nestling, marked by Dr. H. J. Moon at Lytham, Lanes., on July 10th, 1914. Reported by Mr. J. Chamberlain at Thornton-le-Fylde, Lanes., on June 7th, 1916.

AZ20, nestling, marked by Mr. F. E. Blagg at Petersfield, Hants., on June 27th, 1915. Recovered at Sheet. near Petersfield, in July, 1916.

KESTREL (*Falco t. tinnunculus*).—26142, adult, trapped by a bird-catcher a week previously, and bought and released

by Mr. J. S. Elliott at Dudley, Worcestershire, on March 20th, 1914. Caught by Mr. W. G. Rudge at Caldey Island, Pembrokeshire, on July, 19th 1916.

MALLARD (*Anas p. platyrhynchos*).—36765, adult duck, marked by Mr. E. de Hamel at Middleton Hall, Tamworth, Warwickshire, on June 2nd, 1915. Caught again at the same place (with seven young) on June 11th, 1916. Ring replaced and bird released. Shot same place, Oct. 14th, 1916.

WIGEON (*Anas penelope*).—36911, young, marked as No. 36765 on Oct. 29th, 1915. Reported by Mr. G. Langmore at Bradgate Park, Leicestershire, in December, 1916. 65120, adult, marked as No. 36765 on Jan. 24th, 1916. Recovered at the same place on Sept. 16th, 1916.

CORMORANT (*Phalacrocorax c. carbo*).—100693, nestling, marked by Miss A. Pease at the Farne Islands, Northumberland, on Aug. 2nd, 1913. Reported by Mr. G. Gray, at Redcar, Yorks., on May 14th, 1914.

50748, nestling, marked by the late R. M. Barrington at Saltee Islands, co. Wexford, in June, 1913. Reported by the *Shooting Times* in Anglesey, on Aug. 19th, 1916.

GANNET (*Sula bassana*).—100132, nestling, marked by the late J. M. Campbell at the Bass Rock, Haddingtonshire, on Sept. 12th, 1914. Reported by Messrs. R. Hastie and Sons off St. Abb's Head on July 28th, 1916.

LAPWING (*Vanellus vanellus*).—17213, nestling, marked by the late Lord Lucas near North Preston, Yorkshire, on June 19th, 1912. Reported by Mr. A. Fretwell at Linthwaite, near Huddersfield, on August 1st, 1916.

18764, nestling, marked by Mr. R. O. Blyth at Loch Thom, Renfrewshire, on June 20th, 1913. Recovered on the Gryffe Reservoir, Paisley, at the beginning of Sept., 1916.

47138, adult, marked by Mr. J. S. Allison at Louth, Lines., on Feb. 13th, 1915. Reported by Capt. G. W. Cayler at Flamborough, Yorks., on Oct. 27th, 1916.

84347, nestling, marked by Mr. B. H. Fell at Bodiam Castle, Sussex, on June 4th, 1916. Reported by Mr. L. H. Cupps at Henley-on-Thames, Berkshire, on Aug. 8th, 1916.

COMMON REDSHANK (*Tringa totanus*).—45171, nestling, marked by Major W. F. Mackenzie at Ballachraggan, Ross-shire, on June 17th, 1914. Reported by Mr. E. Mack at Cromarty Firth, Ross-shire, on Sept. 23rd, 1916.

COMMON CURLEW (*Numenius a. arquata*).—60347, nestling, marked by Mr. B. H. Fell at Hornby, Lancs., on June 18th, 1916. Reported by Mr. J. Fox at Colgagh Lake, Sligo, on Oct. 16th, 1916.

67155, nestling, marked by Mr. J. Bartholomew at Kinnelhead, Dumfriesshire, on June 25th, 1916. Reported by Mr. J. F. Gallagher at Glenties, co. Donegal, on Oct. 19th, 1916.

COMMON SNIPE (*Gallinago g. gallinago*).—42699, nestling, marked by Mr. J. R. B. Masefield at Cheadle, Staffs., on July 4th, 1913. Reported by Mr. A. Hall at Tean, Stoke-on-Trent, on Nov. 29th, 1916.

SANDWICH TERN (*Sterna s. sandvicensis*).—82889, nestling, marked by Miss A. Pease at Farne Islands, Northumberland, on July 15th, 1914. Recovered at Tarbatness, Ross-shire, on Aug. 16th, 1916.

BLACK-HEADED GULL (*Larus r. ridibundus*).—28010, nestling, marked by Mr. Hugh S. Gladstone at Cleuchhead, Dumfriesshire, on July 2nd, 1912. Reported by Mr. W. Sharpe at Penpont, Dumfriesshire, on June 13th, 1916.

63715, nestling, marked by Capt. A. W. Boyd at Delamere Forest, Cheshire, on June 15th, 1914. Reported by Professor R. Newstead at the same place on June 29th, 1916.

62607, nestling, marked by Mr. J. G. Gordon at Castle Loch, Wigtownshire, on June 21st, 1916. Reported by Mrs. R. E. Bell at Ashington, Northumberland, on Sept. 25th, 1916.

3724, nestling, marked by Messrs. H. W. Robinson and F. W. Smalley at Ravenglass, Cumberland, on June 10th, 1910. Reported by Mr. R. J. Pitman at Cadiz, Spain, on Nov. 12th, 1916.

30478, marked as 3724 on June 13th, 1910. Reported by Mr. Maxwell at Thornhill, Dumfriesshire, in Sept., 1915.

31115, marked as 3724 on June 25th, 1910. Reported by Mr. O. J. Wilkinson at Longton, Lancs., on Jan. 15th, 1915.

27199, marked as 3724 by Mr. H. W. Robinson on June 8th, 1912. Reported by Mr. W. J. Andrews at Flimby, Maryport, Cumberland, on June 23rd, 1916.

23700, marked as 3724 by Mr. H. W. Robinson on June 12th, 1911. Reported by Mr. H. Cameron Gow at Southport, Lancs., on Aug. 14th, 1916.

26524, marked as 3724 by Mr. H. W. Robinson on June 1st, 1912. Reported by Mr. J. J. Hocking at Beckermeth, Cumberland, on Oct. 30th, 1916.

61416, marked as 3724 by Mr. H. W. Robinson on May 31st, 1913. Reported by Capt. R. A. Esparza at Glasgow on Aug. 9th, 1916.

60279, marked as 3724 by Mr. F. W. Smalley on June 7th, 1913. Reported by Mr. J. Staniforth near Ormskirk, Lanes., on Oct. 23rd, 1916.

BRITISH LESSER BLACK-BACKED GULL (*Larus f. affinis*).—

34783, nestling, marked by Miss A. Pease at Farne Islands, Northumberland, on Aug. 2nd, 1914. Reported by Mr. S. Derbyshire at Worsley, near Manchester, on July 5th, 1916.

33747, nestling, marked by Mr. H. W. Robinson at Foulshaw, Westmorland, on July 14th, 1916. Reported by Mr. S. Heaps in *Cage Birds* at Pilling, near Garstang, Lanes., on Aug. 16th, 1916.

34222, marked as 33747. Reported by Mr. J. R. Wood near Kendal, Westmorland, at the end of Aug., 1916.

34490, marked as 33747. Reported by Mr. H. Duckesbury at Kendal on Sept. 10th, 1916.

34205, marked as 33747. Reported by Mr. E. Rogerson at Middlesbrough, Yorks., on Oct. 1st, 1916.

34230, marked as 33747. Reported by Senor J. van der Wielen at Cachinas, Villa do Conde, Portugal, on Oct. 25th, 1916.

COOT (*Fulica a. atra*).—33025, adult, marked by Mr. E. de Hamel at Tamworth, Warwickshire, on June 8th, 1913. Recovered at the same place on Oct. 21st, 1916.

NOTES

CROSSBILLS IN STAFFORDSHIRE AND CHESHIRE.

It may be worth noting that while out shooting, on January 6th, 1917, on the Staffordshire side of the river Dane near Bosley, I heard the loud call note of Crossbills (*Loxia curvirostra*) in flight, and looking up saw three of these birds cross over to some woods high up on the Cheshire bank, with their characteristic dipping flight.

M. V. WENNER.

UNUSUAL NESTING-SITES OF PIED WAGTAIL.

In connection with Mr. P. B. Smyth's note under this heading (*antea*, p. 185), and the editorial remarks thereon, it is perhaps worth recording that on May 3rd, 1914, I found a Pied Wagtail's nest built in a fork in the middle of a clipped yew bush, in a garden in Norfolk.

This nest was in just such a situation as a Blackbird or Song-Thrush selects, and was apparently not built upon even the remains of any other nest.

It was a typical Pied Wagtail's nest as regards size and materials, and contained eggs, upon which the bird was sitting.

B. B. RIVIERE.

It may be worth while to add to the cases given under the above heading (*antea* p. 185) by stating that in late June or early July, 1914, I found a Pied Wagtail's nest (with young) built inside an old Song-Thrush's nest in ivy on a wall in the garden of the Bull Hotel, Wrotham, Kent.

A. COLLETT.

GREAT TIT NESTING IN SAND-MARTIN'S HOLE

It may be of interest to record that on May 28th, 1916, I found a Great Tit (*Parus m. newtoni*) nesting in a deserted Sand-Martin's hole near Farnham, Surrey. This would seem to be a rather unusual site for these birds.

H. H. FARWIG.

LONG-TAILED TIT'S NEST BUILT INTO A SONG-THRUSH'S NEST.

In April 1916, I found at Compton Chamberlayne, Wiltshire, a nest of a Long-tailed Tit (*Egithalos c. roseus*) in which a new Song-Thrush's nest was imbedded to serve as a

foundation. The nest was in a furzebush on the side of the downs ; and when I first found it, while the birds were lining it, there was nothing unusual to be seen. A week later I found it destroyed, and then discovered that the upper part of the Tit's nest was resting inside the Thrush's, while the Thrush's had been evenly covered with a coating of moss and lichen, so as to make it indistinguishable from a normal nest of a Long-tailed Tit. The Thrush's nest was slightly littered inside with other material, and had apparently been deserted, probably in one of the spells of snowy weather which lasted until the middle of April.

A. COLLETT.

GREAT GREY SHRIKE IN KENT.

ON November 7th, 1915, I watched a Great Grey Shrike (*Lanius excubitor*) on some waste land near Tunbridge Wells. It appeared fairly tame and allowed me to approach quite close.

H. H. FARWIG.

BLACKCAP IN WINTER IN SHROPSHIRE.

ON December 6th, 1916, I caught a Blackcap (*Sylvia a. atricapilla*) in a wire trap on the lawn here, within half a mile of Shrewsbury. The bird was apparently a bird of the year, and its appearance in winter, though not unprecedented, is unusual. The trap which the bird entered is after the pattern of those used by gamekeepers for catching Pheasants, about four feet square with a wire funnel-shaped entrance. I have found it particularly useful for catching Starlings. I ringed the young Blackcap ; so there is the bare possibility of its being recovered.

A. MAYALL.

SAND-MARTINS NESTING IN DRAIN-PIPES.

SAND-MARTINS were apparently nesting at Oxford in or about 1898 in drain-pipes in a wall over the river, in a position similar to that reported by Miss Haviland at Cambridge last year (*antea* p. 167). Several times in May or June I saw birds passing in and out of small pipes built into the wall of a yard belonging (I think) to the City Corporation, on one of the branches of the Isis above the Seven Bridges Road. I do not recollect securing actual proof that the birds were nesting, but the date, and their behaviour, made it strongly probable that this was the case.

A. COLLETT.

FOUR EGGS IN A NIGHTJAR'S NEST.

ON June 19th, 1914, in the grounds of North Court Lodge, Brandon, Suffolk, I found a nest of the Nightjar (*Caprimulgus e. europæus*) containing four eggs as shown in the accompanying photograph. The nest was in private grounds and a



CLUTCH OF FOUR EGGS OF NIGHTJAR FOUND AT BRANDON.
SUFFOLK.

(Photographed by Miss Ruth Spragge.)

long way from any path or house, so that there was no chance of any person having tampered with the eggs. Only three young ones hatched, but they grew up well and used to huddle all together and seemed to behave just as other young Nightjars do. We never saw more than one old bird either when there were eggs or young.

RUTH SPRAGGE.

LATE STAY OF CUCKOO.

WITH reference to the editorial note (*antea* p. 187) regarding the latest recorded date for the Cuckoo in the British Isles, I should like to state that on December 26th, 1897 or 1898, I was rabbit-shooting in Delamere, Cheshire, when the dog put up a Cuckoo out of some brushwood in a small dingle. I shot the bird and still have its skin, which undoubtedly belongs to a bird of the year.

G. F. GEE.

SNIPE CALLING IN DECEMBER.

ON December 26, 1916, near Oswestry, the ground was frozen very hard and Snipe were numerous wherever there were small streams of running water or unfrozen bogs. I happened to be ferreting near one of these patches. At the sound of my gun, a Snipe (*Gallinago g. gallinago*) began calling "gig-wick" and kept it up for some ten to twenty minutes. The bird remained on the ground all the time. Later in the day I returned the same way and again fired near the bog with the same result. After the Snipe had stopped calling I put them up: there were five in the field—two singles and a three. Hitherto I have considered this note one which is essentially a breeding-time note and have then heard it uttered by birds on the wing and on the ground.

J. H. OWEN.

LITTLE BUSTARD IN CO. CLARE.

A FEMALE Little Bustard (*Otis tetrax*), in beautiful plumage, was shot near Ennis, co. Clare on December 20th, 1916, and sent to Messrs. Williams of Dublin where it is being mounted for me.

This is the seventh specimen obtained in Ireland, the previous records being:—

1833, co. Wicklow. Two seen, one of which was obtained on August 23rd. 1860, co. Cork, December 24th. 1883, co. Longford, February, co. Cork, November 14th. 1887, co. Mayo. Two seen, one of which was obtained in December. 1892, co. Kerry, December 30th.

C. J. CARROLL.

LATE STAY OF NIGHTJAR IN NORTHAMPTONSHIRE.—Mr. A. Page reports (*Field*, 2. XII.'16, p. 837) that a *Caprimulgus e. europæus* was found dead, but in fresh condition, on the roof of Peterborough Cathedral on November 21st, 1916—a very late date.

SPOONBILL IN DEVON.—Mr. F. B. Hinchliff writes to *The Field* (25. XI.'16) that "quite recently" an example of *Platalea leucorodia* was shot near the estuary of the Taw. It will be remembered that Dr. Elliot reported a Spoonbill in April last on the Kingsbridge estuary (*antea*, p. 21).

BRITISH BIRDS

With which is Incorporated
"THE ZOOLOGIST."

EDITED BY H. F. WITHERBY, F.Z.S., M.B.O.U.

ASSISTED BY

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ORNITHOLOGICAL NOTES FROM NORFOLK FOR 1916.

23RD ANNUAL REPORT.

BY

J H. GURNEY, F.Z.S.

THE *Zoologist* having now unfortunately come to an end, these annual Norfolk notes are transferred to *British Birds*, but at the request of Mr. Witherby, they are this year arranged under species and other headings, instead of being in diary form as hitherto, a method which is probably more convenient for future reference.

MIGRATION.

There is not very much to be said about migration during the earlier portion of 1916. On February 22nd, a spell of cold weather set in, accompanied by snow, which in a few days was thirteen inches deep on the level. It was curious to notice how all birds fled before it. For three weeks the country was practically birdless, Wood-Pigeons, Lapwings, Rooks, Starlings, Snipe and Wild Ducks, all had gone. The Redwings were the last to go, but even they departed, and nothing remained but a few hardy Blackbirds, some flocks of Chaffinches and Bramblings under the beech trees, and half starved Larks among the white turnips. On the 24th and 25th, after a heavy fall, it was reported that many small birds were to be seen following the coast-line at Cromer, where their instinct taught them the ground would be softer.

There was nothing calling for remark ornithologically during the spring and summer. June was a wet month and July a dry one, and the hatch of Partridges promised badly. Migrants arrived in their customary order, but as usual there was a shortage of warblers.

The great autumnal migration took place in the ordinary way, but few notes came to hand, there being no observers to make them. The influx of Redwings on October 17th was steady, numerous flocks, some of them numbering as many as a hundred birds, passing west and north-west in the vicinity of Cromer and Holt. Fieldfares and other well-known species were also to be seen dropping in.

But the most important movement was that of the Pomatorhine Skuas in September. This must have been a purely local influx, for none of that species came under the notice of Mr. Caton Haigh in Lincolnshire, or of Dr. C. B. Ticehurst

in Suffolk. It recalls the invasion of Norfolk and Yorkshire by bands of Pomatorhine Skuas in October, 1879, when many collectors supplied themselves with specimens.

Food.

ROOK (*Corvus f. frugilegus*). As Rooks were decidedly troublesome during 1915 and 1916, I should like to offer a few considerations on their supposed merits, which may possibly have been exaggerated.

At the present time agriculture is a matter of vital importance, and the Rook question is again to the front, as it has often been before. It has always seemed an anomaly that hawks in Norfolk, and even owls, should be persecuted, while Rooks go almost unscathed, although there is not a farmer who has a good word for them.

1. To begin with January: if the weather be mild and open and the land soft enough for ploughing, it may be admitted that the Rooks are doing good. They are supposed to consume every kind of grub which turns up—grubs of the click beetle (*Agriotes*, wireworm), cockchafer (*Melolontha*), chovy (*Phyllopertha*), daddy-longlegs (*Tipula*), weevils, etc., and especially worms, but the earth-worm by continually turning the soil, does more good than harm. On the other hand, the crane fly (*Tipula oleracea*) sometimes does vast damage, and here the Rook and the Starling are doing grand service. A naturalist should be the last person to underrate these benefits, although in east Norfolk, Rooks only share them equally with gulls. Inland gulls, and especially the Black-headed Gulls, are better farmers' friends than either the Rook or the Starling. Let the open weather to which we have been alluding change, and the habits of the Rook will quickly change also. If February comes in, as it sometimes does, with a hard frost, or March with a canopy of snow, any unthreshed stacks still standing, and wheat-stacks especially, are promptly attacked. It is not the amount of grain eaten which the tenant farmer has to complain of, nor the straws which the Rooks pull out, but it is the holes made in the roofing, for these let in the wet when a thaw comes, and forthwith the sample suffers injury. It is usual for Rooks to commence by pulling out the top straw which has been used to thatch the stack, and when this is done they are able to regale themselves on the grain underneath it. In very sharp weather they burrow holes into the stacks so deep that only the tips of their tails are to be seen protruding, and as for scarecrows, they ignore them altogether.

2. Having sown a part of a field with potatoes in response to the national appeal to farmers to grow this crop, I was very soon struck with the propensity of Rooks to eat them. The old potatoes which are sown in the drill sometimes whole, sometimes in halves, as "settings," are quickly grubbed up by those strong beaks, and the exultant Rook flies away with his spoil. It is true that after a while the crop of potatoes, or what is left of it, can be made safe by the process of "moulding up" with soil when the plant is about six inches high, but this takes time, and labour in Norfolk is getting scarce.

3. This year, as usual when November arrived, the Rooks were occupying themselves with my wheat-fields, not for the grubs which they ought to have been eating, but for the sake of the newly-drilled grains of wheat. Troublesome as they are in autumn, they are still worse on the barleys in spring, at which season rows of holes made in the ground by their strong beaks may be seen. It is wonderful what instinct, or perhaps a sense of smell, shows them exactly where to dig for the grain, but somehow they seem to know; they may, however, be partially balked by cross harrowing, which makes the grain lie rather deeper, and it is then not so easy to find.

4. In December an undue partiality is shown by Rooks for swede turnips, into which they drill holes, thereby making them rot: if they would consume a few entirely instead of eating a little of a great many, they would do much less harm.

Some say that the habits of the Rook have changed for the worse of late years, but it has always been a disputed point whether to kill them or spare them—a question which has come under debate before the Norfolk Chamber of Agriculture, as has the Sparrow question. One cannot blame our farmers for getting exasperated, and doing what is illegal, namely laying poison. Under Section 8 of The Protection of Animals Act (1911) poisoned grain may be laid under certain restrictions for vermin, but whether "vermin" includes Rooks is a matter of opinion. At any rate there is no objection to steeping the wheat grain in "Corvusine," a tarry mixture sold in tins, which is supposed to make it safe from birds. Some farmers do not like it as it clogs the drill, and in any case it is not often used for barley and oats.

STARLING (*Sturnus v. vulgaris*).—Our Norfolk agriculturists also find a great deal of fault with the Starling, but they do good on clover. The clover fields are generally cut in July, when they are quickly visited by bands of Starlings, which

from their brown plumage appear to be all young ones. These Starlings are in search of the white slugs which often infest the clover, clinging to the lower part of the stems of the plant, which can then be easily obtained. These slugs, although not large, are known to be very destructive, so this is to the Starling's credit. They are the common field slug (*Agriolimax agrestis*, L.) (*vide Norwich Naturalists' Tr.*, V., p. 407), which varies from white to a brown colour.

GREENFINCH (*Chloris ch. chloris*).—The Rev. M. C. Bird, who has paid a good deal of attention to the food of birds from an agriculturist's point of view, observed that Greenfinches were taking seed from Scotch firs in the spring (May 18th) for their young. It is astonishing what a quantity of food the young can put away, eating or being fed until their swollen crops look ready to burst. The seeds of the Scotch fir seem to have a great attraction for birds (see *British Birds*, Vol. III., p. 411).

BLACKCAP (*Sylvia a. atricapilla*).—During the summer Mr. E. Knight observed both the Blackcap and the Marsh-Tit feeding on the red berries of the common honeysuckle.

WOOD-PIGEON (*Columba p. palumbus*).—I am afraid there are very few farmers in Norfolk who have a good word for the Wood-Pigeon. In July these thieves were to be seen very busy on the thousand-headed kale, which is here grown in rows among the mangold. The mangold are not much touched, at least not for the present, the succulent leaves of the young kale, which are easy to distinguish after the crop has been hoed out, being preferred by the Wood-Pigeons. The glazed leaves of the mangold they do not seem partial to, but young swede turnips are very much to their liking, and they are especially fond of a field of cole seed. Where there are pea-fields, these in August are an unfailing attraction to Pigeons; now is a good time to lie up for them, seventy-five were in this way accounted for by one gun, who is a noted shot, on August 12th, most of them being adult birds.

TURTLE-DOVE (*Streptopelia t. turtur*).—In June when the sainfoin clover is cut, numbers of Turtle-Doves go to the fields to feed on the seeds which are shaken out in the operation. As many as thirty may be seen on a single piece of clover, especially where it is rather over-ripe. These Doves seem to drink a good deal and do not mind brackish water.

VARIETIES OF PLUMAGE.

Pied birds and white birds cannot be said to have much scientific value, yet it is as well to keep a register of them,

which generally shows that in some seasons, and in certain localities they are much more plentiful than in others.

White and variegated Blackbirds, being very conspicuous, are quite useful aids to the understanding of migration, and another thing which they teach, is the extent to which individual birds take possession of a given territory. We have had several pied Blackbirds at Keswick these last few years, which have led to these remarks. One Blackbird †, with a white patch on its back, was in the grounds for the greater part of the winters of 1914, 1915 and 1916, and generally very near the same place; it seemed to arrive from the north in September, but its date of departure was more difficult to verify. Another † with a white head, which made its appearance on March 20th, 1916, and was seen until May 4th, then disappeared, but turned up again on September 13th and continued near the same spot with intervals until December 3rd. These observations agree with some made on a nearly white Blackbird † at Northrepps in 1876, 1877, 1878 and 1879, which was fortunate enough to live several years before it was shot.

A white Reed-Bunting was received by Mr. Saunders from St. Olave's in September, and another in December by Mr. Roberts from Rockland.

On March 7th, Mr. E. Gunn received a white Wood-Pigeon from Costessay, and on September 12th I saw one at Keswick in the identical field, where there was one a few years ago.

A very good example † of the silver-grey variety or "Bohemian" Pheasant which has been persistent in Norfolk for a great many years, was killed on January 19th, by Mr. P. B. Ficklin.

CLASSIFIED NOTES.

Apart from the Skuas and the novel fact, to be mentioned presently, of Cormorants having bred at Hockwold, in south-west Norfolk, the year 1916 has been a blank year, the only rarities being the adult Sabine's Gull seen by Mr. Patterson in April, a White Stork in May, and a Little Bustard in December. The absence of any record of the occurrence of the White-tailed Eagle or Honey-Buzzard should be noted.

The following notes, taken in conjunction with Mr. Arthur Patterson's observations in *The Zoologist* (1916, pp. 369-377), comprise everything which is worth putting down.

The rainfall for the year was 31.67 (E. Knight).

A dagger (†) indicates that the bird was examined by the recorder.

YELLOW WAGTAIL (*Motacilla f. rayi*).

Mr. Vincent referring to the Broads district writes on May 19th :—

“Am surprised at the extraordinary dearth of Yellow Wagtails this spring; this bird gets less every year . . . I should think ten is the most I have seen all the spring.”

Has this scarcity been elsewhere noticed? It is one of our earliest migrants to arrive.

BEARDED TIT (*Panurus b. biarmicus*).

The status of this species does not vary very much on the Broads, although it had sunk rather low at one time, owing not to the hard winters as interested “Broadmen” would have us believe, but to the depredations of dealers. Hard winters, however, undoubtedly make them wander away from the Broads, and then smaller reed-beds at a great distance are sometimes visited. At the present time it would be fairly safe to assess the total number of nests at about eighty, and as the protection they receive is no longer a nominal one, there should be no further diminution.

I can add nothing to Miss Turner’s admirable observations (*British Birds*, Vol. VI., p. 138), except that the male occasionally takes part in the duties of incubation, and that the period is about the same as in other small birds—fourteen days. The female was sitting on a nest which Dr. Long and I examined last year on the 15th of April, but this year I have not had a chance to see one.

The four rows of raised black and white dots upon the palate of the nestling Bearded Tit, first described in 1899 in *The Norwich Naturalists’ Trans.* (VI., p. 435), always remind me of the bright colours of the buckbean. The nests are exposed to predatory animals, and it is conceivable that these spots have a protective value.

REDSTART (*Phœnicurus ph. phœnicurus*).

The Redstart and the Nightingale seem to have forsaken east Norfolk, one used to consider them rather common birds, but now a pair here and there is all there are. Maybe the cold springs and storms on migration are accountable for this decrease, all the more so as it is not confined to this county (see *British Birds*, Vol. VIII., p. 108).

REDBREAST (*Erithacus r. melophilus*).

A Robin sitting on nine eggs † in May was an unusual sight; I have never seen such a large clutch as nine, and

Mr. Jourdain also considers it very unusual. Robins appear to have three broods sometimes; the young quit the nest at about the fifteenth day.

NIGHTJAR (*Caprimulgus e. europæus*).

Nest with four eggs, already recorded (*antea*, p. 139). It seems very possible that the jarring note of the Nightjar is in part produced by the assistance of the long bristles which beset the gape, for such a wide-mouthed bird would hardly need them for catching moths, yet I do not find that any authors make this suggestion.

HOOPOE (*Upupa e. epops*).

Of the Hoopoe there are two entries for 1916, one seen on Sidestrand hills by Mr. Hoare on October 8th, and one reported to Mr. Saunders at Caister on November 17th. If old records are to be relied on, this bird must be much rarer now in East Anglia than formerly.

CUCKOO (*Cuculus c. canorus*).

On May 27th, a Cuckoo's egg was found by Mr. W. G. Clarke in the nest of a Bullfinch at Honingham; on June 30th two Cuckoo's eggs were in a Pied Wagtail's nest at Hethel (Myhill), one brown, the other of a reddish type; and on July 8th Mr. Clarke discovered a young Cuckoo in a Greater Whitethroat's nest at Horning, underneath which were three unsprung eggs of the Whitethroat a little chipped.

LITTLE OWL (*Athene n. noctua*).

On January 17th Miss C. J. Gurney recognized the calling of a Little Owl at Swainsthorpe, and on February 28th got a view of two. In the course of April and May they were seen by several persons, frequenting some pollard elm trees, and on June 1st a nest with three young ones † was found in the hollow of one of them. The Little Owl, a few years ago unknown, is now steadily spreading in Norfolk.

ROUGH-LEGGED BUZZARD (*Buteo l. lagopus*).

The migration of the Rough-legged Buzzards in 1915-16 was a great feature, but this more properly belongs to the Report for 1915. They kept on coming for a long time, presumably from over the sea, but where not molested, settled down to a very limited locality, provided it had a supply of rabbits. As long as there are rabbits, they will not touch Pheasants and Partridges, indeed they could not catch them unless they were wounded. As for rabbits, our farmers are

only too thankful to be free of them, so Buzzards may be held to do more good than harm. As late as April 15th I had the melancholy satisfaction of examining two beautiful specimens—one of them in change—lately trapped, hanging suspended on a keeper's pole, but in several places orders were given by proprietors to their gamekeepers to protect them. May 5th was the latest date on which one was seen in Norfolk (J. Vincent), and this was probably returning from the south of England, or from France.

COMMON BUZZARD (*B. b. buteo*).

On November 27th a Common Buzzard was shot at Ormesby (E. C. Saunders). It must be principally from southern Sweden and the shores of the Baltic that Common Buzzards come, for this species has not the same northern range as the Rough-legged Buzzard. It has long ceased to be anything but a rarity with us.

MARSH-HARRIER (*Circus aeruginosus*).

In June it was reported that a pair of Marsh-Harriers—much rarer now than Montagu's—were frequenting a Broad near Stalham: there was, however, no evidence of there having bred in 1916 there, nor on any of the Broad.

In 1915 a pair did nest, I am glad to say, and hatched off. The keeper told me a curious thing about these birds, which was that there was one male to two hens, both of which it appears he kept supplied with food. This food—some young marsh fowl or leveret, or perhaps a rat—was, I believe, delivered in the air, the female Harrier rising from her nest to receive it.

The systematic way in which Marsh-Harriers quarter the reeds is very curious, and little that is eatable, be it fur or feathers, comes amiss. Sir Thomas Browne represents them as occasionally carrying off young otters (*Natural History of Norfolk*, Southwell's edn., p. 56), and no doubt in his day they were very plentiful, and otters were more abundant too.

The Marsh-Harrier makes a somewhat larger nest than Montagu's Harrier, with a better superstructure on which to build it. The withered stalks of the "gladden" (*carex*) are largely used, but the bird is not above employing odd things such as a marshman's hay-bond, or a bit of rotten wood: the stems of the marsh-hemlock are also used. One nest which I measured was nine inches in diameter, another about eleven.

It is perhaps not generally known that the male Marsh-Harrier occasionally takes a share in incubation. It certainly

was so in one instance, for I saw a fully adult grey-winged male leave the nest, which contained four eggs, and my companion "snapped" him as he rose.

MONTAGU'S HARRIER (*C. pygargus*).

On August 6th, Dr. S. H. Long saw three Montagu's Harriers, on South Walsham marsh, which had probably not long left their nest, on marsh haycocks, always a favourite place for them. This Harrier still keeps up its numbers fairly well in the Broad district as well as in fens in the south-western part of the county.

The nest of Montagu's Harrier is not difficult to find when the birds themselves have been located. In the few which have come under my examination, it has been but a shallow platform, measuring some 14 inches across, slightly cup shape, with here and there a bit of down shed from the Harrier's plumage. The fabric, holding the eggs, which are not large for the size of the bird, is made up of bents of grass, stalks of the gladden, with perhaps bits of hemlock and ragwort, and a briar or two. In one nest † it was noticed that the ends of some of these stalks and bents had been snipped off, apparently by the Harrier, to make them into more suitable lengths. Mr. Bird is of opinion that they continue adding to their nests after laying.

A full clutch of eggs is four, but sometimes the female is content with three, and I have seen one sitting close on two, but in this instance the nest had been robbed. The eggs measure 1.7×1.25 inches and although white when laid, soon get dirty with incubation.

I once had a Skylark's egg given me which had been taken out of the gullet of one of these birds, and according to authors they are well known egg-eaters.

HEN-HARRIER (*C. cyaneus*).

It is probable that a pair or two of Hen-Harriers may still nest in Norfolk, but for some years there has been no proof of their doing so. A couple which looked like breeding were identified by a good observer on April 5th, but no nest was located.

WHITE STORK (*Ciconia c. ciconia*).

During the latter part of May a White Stork, as I learn from Mr. E. C. Saunders, frequented the Burgh Castle Marshes, and was again seen near Reedham up to June 2nd, but from another source I hear that it ultimately met its fate. The last occurrence was on April 26th, 1912, but it has always been a rare bird.

SPOONBILL (*Platalea l. leucorodia*).

The Yarmouth, or rather Breydon Spoonbills, have always been a subject of much local interest, and as they have now been protected by subscription for nineteen summers, it is to be hoped that they begin to feel at home. Probably they have been visitors to Breydon, or its marshes, for centuries; at any rate records go back to 1774, indeed there is nothing impossible in the supposition that at the beginning of the eighteenth century they were still breeders in its vicinity, and came for their daily food to this large tidal Broad.

It is very difficult to say exactly how many paid us a visit this year, but about eight. Careful memoranda were as usual kept by the watcher, from whose diary the following extracts are taken :—

- May 16. Two Spoonbills and several Turnstones on the flats, after a high wind (Force 5) from N.W. the preceding evening. Next day they were gone.
- „ 22. N.W., 2. One Spoonbill, which stayed three days.
- „ 28. No wind, another Spoonbill, or the same one again.
- June 2. N., 3. A very good Spoonbill came in in the night, but left again with a strong S.W. wind on the 4th, probably for Cley, where one was seen on the 6th (*cf. antea*, p. 66).
- July 9. N.N.W., “fresh.” One Spoonbill.
- „ 13. Two more Spoonbills came in after a gale (Force 6) from S.W., the preceding day. Jary notes of one: “A very small bird, it must be a young one, there are three here now.”
- „ 19. N.W., 2. One Spoonbill, which stayed until August 1st. on which day unfortunately the watcher for lack of funds was withdrawn.

In former years the direction of the wind was not thought worth noting, but since the watcher has been enjoined to put it down, we find that forty-four Spoonbills have been registered as coming with a north-east wind, and fourteen with a north-west. North is therefore the favoured direction so far as Breydon is concerned, in the spring and summer, and next after that west. At that time of the year, however, the birds would hardly come from the north, and it is certain they do not come from the west.

Of one of these Spoonbills, that seen on July 9th. Mr. Jary remarks “a very large bird,” and in previous years the difference in size has been noticed by him. I would ask if this discrepancy has been observed elsewhere. The length

of the bill especially seems to vary greatly, much more than sex can account for. The beak of one which my party shot in Egypt was no less than 9.75 inches, while in another killed in Norfolk it is only 6.60, a difference of more than three inches.

BITTERN (*Botaurus s. stellaris*).

On January 17th, as I am informed by Mr. R. Gurney, a Bittern was seen apparently in the act of arriving from the Continent; there was no doubt about its identity for the next day it boomed four times.

I have not been able to visit their quarters this summer, but on June 11th Dr. Long was fortunate in coming in for a good vocal display.

WHITE-FRONTED GOOSE (*Anser albifrons*).

BARNACLE-GOOSE (*Branta leucopsis*).

Three White-fronted Geese were on Breydon Broad on April 16th, while a Barnacle-Goose was shot there on April 1st (E. C. Saunders) and another at Holkam on January 8th. On November 14th over sixty Canada Geese were seen by the Rev. M. C. Bird, presumably from private waters somewhere.

[RUDDY SHELD-DUCK (*Casarca ferruginea*).

The Rev. M. C. Bird informs me that four were seen by Mr. Nudd on our principal Broad at the end of October, but their tameness savoured of captivity. It will be remembered that four were seen at the same place last year.]

GADWALL (*Anas strepera*).

On June 18th a Gadwall with six young ones was seen on the Yare at Bramerton by Mr. W. G. Clarke. This is the first time they have bred in that part of the county, but a young one was got at Hickling in August, 1907. Reasons for thinking that they are probably spreading were given in the *Zoologist* for 1900, p. 107.

TEAL (*A. c. crecca*).

The Rev. M. C. Bird notes that as early as January 28th there were several already in pairs at Barton and Irstead, and Mr. Vincent informs me that in his neighbourhood more stayed in the marshes to breed than he had ever known before.

GARGANEY (*A. querquedula*).

Only one pair reported this year on our principal Broad, which is not good. Last year the keeper knew of two pairs, but they certainly are not so common on the eastern side of the county, as they used to be, yet this is not from persecution, because they are protected.

SMEW (*Mergus albellus*).

On January 1st a female was brought into Norwich (E. T. Roberts), and on the 6th Dr. Long saw an adult male on Langmere. Norfolk has not had a Smew year since the hard winter of 1890-1, when the frost lasted fifty-one days, and many Swans and other wildfowl were shot as well.

CORMORANT (*Phalacrocorax carbo*).

At the end of August Mr. H. E. Upcher discovered a pair of Cormorants nesting in Hockwold fen near Brandon, at a spot about twenty-two miles from the sea (*cf. antea*, p. 120), very near where his father and I saw the Great Bustard in 1876. This is the second occasion on which Cormorants have bred of recent years (*cf. Vol. VIII.*, p. 130), and is indicative of a return to old habits.

FULMAR PETREL (*Fulmarus g. glacialis*).

Mr. Richards picked up an adult on the sand on September 21st. In this species the trachea is divided by a septum, which gives it the appearance of a double windpipe.

BLACK-NECKED GREBE (*Colymbus n. nigricollis*).

On April 27th, Mr. Vincent saw a Black-necked Grebe at Hickling, where it remained until May 14th. It probably did not find a mate, but there is good reason for supposing that on some former occasions this species has bred with us. The last which were reported on this Broad were a pair in May 1911. In 1892 there was one on Rockland Broad as late as July 28th (*Zoologist*, 1892, p. 358), but the supposition that it had young ones (*t.c.*, p. 400) was probably without foundation.

BLACK-THROATED DIVER (*Gavia arctica*).

Mr. E. T. Roberts announced a Black-throated Diver † on the small Broad at Rockland on January 19th. On February 22nd there was one † on Selbrigge pond, which seemed uneasy as if just arrived; the woodman drove it to where I was hidden, but it evidently suspected danger. The next day was very coarse with blizzards of snow, which

were too much for it and it left, but two Divers, presumably of the same species, returned on March 6th, and stayed until the 10th, on the same pond.

STONE-CURLEW (*Burhinus æ. ædicnemus*).

In spite of protection Norfolk Plovers do not spread, doubtless because the ground suited to their habits is limited. In April Mr. S. H. Long saw quite a number on Breckles Heath, but there they have long been known. In east Norfolk there have always been a few spots frequented by them, some of which are at no great distance from Norwich.

At Drayton Mr. Walter and Mr. Riviere found two eggs on June 9th, which hatched out on the 17th. One of the young ones, when nearly full-grown, and able to fly, trusted so far to its power of concealment as to allow itself to be picked up by hand. Possibly it was this bird which the same gentlemen caught again on November 12th, when it appeared to have something wrong with its quill feathers, some of which were broken off. Another pair of Norfolk Plovers frequented Cossey Common, where they were seen by Mr. W. G. Clarke on June 17th, but whether they bred is not stated.

Some years ago Mr. Clarke informed me that a gamekeeper at Santon Downham had killed a Norfolk Plover, and taken from its crop the remains of two little Partridges and a small Pheasant. Such a habit must be very unusual, but it is said that they will eat fieldmice, if they get the chance. One dissected by my father (October 1st, 1843) contained several earwigs.

RINGED PLOVER (*Charadrius hiaticula*).

June 18th. A Ringed Plover's nest with four eggs at Easton near Norwich in a field planted with swedes (B. B. Riviere), an unusual position, as well as being some sixteen miles from the sea.

GREY PLOVER (*Squatarola squatarola*).

On May 8th several in their beautiful black plumage were on Breydon flats (G. Jary): on June 6th there were again some to be seen there, probably non-breeders.

GREEN SANDPIPER (*Tringa ochropus*).

On August 22nd, I received a Green Sandpiper † from Mr. T. B. Lennard. The status of this species in the eastern counties is peculiar, and we have still a good deal to learn about it. If it does not breed in Norfolk its repeated presence

in July and August is difficult to account for, yet its nest has never been found, although searched for both in trees and on the ground. In July 1840 there were six on a rivulet at Eccles, and Richard Lubbock, a very good naturalist, considered from the duller plumage of some of them, that they were two old birds with a brood (see *Norwich Nat. Tr.*, II., p. 426), but he does not say that he looked for the nest. Later instances have occurred, on the little stream here I have seen four together as early as August 6th.

GREY PHALAROPE (*Phalaropus fulicarius*).

On October 17th a Grey Phalarope † was discovered by a shooting party in a small pond generally used by farm horses at Hempstead. It was swimming backwards and forwards busily snapping at gnats, which it had possibly reckoned on finding there. The bird seemed quite at home, and we remarked that it swam high in the water, which made its body appear larger than it really was. This and another at Holme on September 5th (Sir T. Troubridge) are the only ones reported.

COMMON TERN (*Sterna hirundo*).

In the course of the summer the terneries at Wells and Stiffkey were visited by the Rev. F. C. R. Jourdain, who was able to report well of them, especially of the former*, but I fear the large settlement at Blakeney has fared badly at the hands of the soldiers, which probably accounted for the absence of young ones at Breydon (Jary). It would be interesting to know what has become of the large surplus population of Terns, which have been thrown off from these three places, and from Wolferton, during fifteen years of protection.

SABINE'S GULL (*Xema sabini*).

On April 15th Mr. A. H. Patterson had the good fortune to see on Breydon a Sabine's Gull, which passed him within about twenty yards, the wind at the time being from the north, and very strong. From a sketch made the same day, showing the black head and forked tail, the bird would appear to have been in full breeding plumage. This is the eleventh occurrence of this circumpolar species in Norfolk, but only the second time that it has appeared in adult plumage.

* The whole of the first layings were destroyed by high winds and tides later in the season, and this probably accounts for the absence of young.—F.R.C.J.

POMATORHINE SKUA (*Stercorarius pomarinus*).

Mr. S. J. Richards has kindly informed me that on September 14th there was a singular migration of skuas at Blakeney, which came under the observation of Mr. E. Ram, and also of Mr. H. Cole at Cromer. Mr. Cole only saw two, but Mr. Ram believes he saw seventy, not all passing in one flock, but a continuation of small parties, varying from one to twenty, which went on for about two hours. The curious thing about it was that instead of hugging the coast, as the gulls always do, the skuas were flying due south, that is, going inland, as if they were making for the mouth of the Thames. One which Mr. Ram procured was a Pomatorhine, and he believes that most of the others were adult Pomatorhine Skuas also. He did not note the direction of the wind, but according to the Meteorological Report it was N.N.W. 4, in the morning at Yarmouth.

BUFFON'S SKUA (*S. longicauda*).

On September 16th Mr. Richards secured a very young Buffon's Skua.

LITTLE AUK (*Alle alle*).

Of the Little Auk only six notices have come to hand, namely, two in January, two in March, one in November (B. Dye), and one in December.

LITTLE BUSTARD (*Otis tetrax*).

Over twenty Little Bustards have occurred in Norfolk. On December 28th a female, like all the rest in winter plumage, was shot in the marshes between Acle and Yarmouth, and taken to Mr. Saunders, the wind the preceding evening having been N.W. 3.

OBITUARY.

CAPTAIN JOHN DIGHTON GRAFTON-WIGNALL.

CAPTAIN GRAFTON-WIGNALL was born on January 25th, 1888, and entered Sandhurst from Clifton in 1906, passing out 14th. In November, 1907, he went to India, first being attached to the "Fighting Fifth" before joining the Punjabis. In 1915 he took part in the Chakdara expedition, while January, 1916, saw him in Mesopotamia, where, to the bitter regret of all who knew him, he was killed in action just over a year later. Possessed of many sterling qualities, he was a fine boxer and shot and a capital cragsman; once he saved a friend's life at imminent risk to his own. But these things have been written elsewhere, and here I must try to do him justice as an ornithologist. Jack Wignall, then, could he have devoted more time to the subject, and had he in any case published his experiences, would have been as notable as a hall marked observer in ornithological circles generally, as he was to his intimates. Actually, before reaching nineteen, he had closely studied such local species, amongst others, as Buzzard, Peregrine, Raven, Chough, Woodlark, Dartford Warbler and Water-Rail—a proud record for a boy; and even at that early age he was wonderful at identifying with certainty among a host of commoner waders some of the lesser-known sorts—a feat most of us, many years older, have yet failed to emulate. Indeed I have seldom seen a quicker eye for woodcraft. For he had that perfect sight which enabled him to "pick up" a sitting Woodcock or a clutch of shingle-laid eggs as quickly as (and he *was* quick) he could detect—and accurately name too—flying or at rest some bird a great way off. A rare combination, and one to be envied. Not until 1912 did he return home on leave, which he profitably spent studying Eagles, Peregrines, Short-eared Owls (finding a "nest" in what I believe was a hitherto unrecorded locality), Dartford Warblers, Cirl Buntings, Grey Lag-Geese, Kentish Plovers, Stone-Curlews and so forth. I did much field-work with him, learning not a little, and shall always regard those happy days and his unflagging friendship with unmitigated pleasure. To his many friends—and to me especially—his loss is irreparable: ornithology, has lost a very accurate, first-rate and indefatigable observer.

J. W. B.

NOTES

UNUSUAL NESTING-SITES OF PIED WAGTAIL.

REFERRING to the notes on this subject (*antea*, pp. 185 and 225), perhaps Mr. Jourdain may like to add the following to his list :—

In 1905 I knew a nest in a goods-shed at Llanuwellyn Railway Station, in Merionethshire, in which a Robin and a Pied Wagtail each laid an egg every morning until it was taken by some schoolboys with I think (speaking from memory), ten eggs, equally divided between each species. The nest was founded upon an old Swallow's, on the top of a rafter, and had evidently been built by the Wagtail. I remember at least one other case of a Pied Wagtail building in an old Swallow's nest (in Northumberland). Just north of the Tweed, in Berwickshire, I have seen this Wagtail occupying a Thrush's nest on the face of an old wall, but that I should not regard as a very unusual circumstance. Nor is it very rare to find it nesting upon the ground either under shelter of a bush or at the foot of a wall, at least not with us in the north.

GEORGE BOLAM.

ON May 16th, 1915, I found a Pied Wagtail nesting in the remains of an old Dipper's nest at Birtles, Cheshire. The Dipper's nest was situated on a ledge over a culvert flowing into a small stream. The Wagtail's nest contained eggs and young.

E. W. HENDY.

TWO WHITE AND ONE NORMAL HEDGE-SPARROWS IN SAME BROOD.

I HAVE just skinned (January 13th) a Hedge-Sparrow which is practically an albino, except that the eyes were normal in colour; legs and bill pale pinkish. It was taken from a nest near Newcastle-on-Tyne in the summer and had lived in confinement since. The brood consisted of three birds, one of which was in the ordinary plumage, the other two being white.

GEORGE BOLAM.

LATE NESTING OF SWALLOW IN CHESHIRE.

WITH reference to Mr. Dewhurst's note on this subject (*antea*, p. 137), on September 5th, 1915, I ringed four young Swallows in a nest near Shuttlings Low on the east Cheshire hills. On September 10th of the same year, a friend ringed four nestlings of the same species with my rings at Peover, Cheshire.

E. W. HENDY.

SAND-MARTINS NESTING IN DRAIN-PIPES.

WITH reference to the note on this subject (*antea*, pp. 167 and 226), as far as my experience goes it is not such an unusual thing for Sand-Martins (*Riparia r. riparia*) to nest in drain-pipes, at least in my part of Somerset. Three such situations exist on the main road leading from Wells to Shepton Mallet, the birds occupying the drain-pipes leading from the road to the river Sheppey. Sand-banks are unknown in this locality.

A more unusual place is that taken up by a small colony of Sand-Martins on the Wells sewage-farm at Burcott, where the nesting holes are bored in a huge heap of rubbish, the refuse from the streets of Wells. Last season many broods were successfully reared, despite the hundreds of rats infesting the place. Another favoured site here is a hole in an old wall; hundreds of birds also annually resort to the peat cuttings of central Somerset for breeding purposes.

STANLEY LEWIS

[It may be noted here that the heaps of sawdust near Brandon in which Sand-Martins are mentioned as breeding in Yarrell (4th ed., Vol. II., p. 358), were still being used by these birds in 1898.—N.F.T.]

KINGFISHER SWALLOWING A FROG.

I HAD no idea that Kingfishers (*Alcedo i. ispida*) ate frogs, but Mr. Topp, taxidermist of Reading, very kindly sends me the following particulars—"The other day a Kingfisher was sent in from Theale and I found on opening the bird a large frog, it must have killed it, I cannot think how he could have swallowed such a large one, the hind leg of the frog was $2\frac{1}{2}$ in. long."

HEATLEY NOBLE.

LATE STAY OF CUCKOO.

REFERRING to the record of a Cuckoo seen on December 1st, 1916, near Swindon (*antea*, p. 186) and the editorial note to it, in which it is stated that this is believed to be the latest date hitherto recorded for the British Isles, may I direct attention to pp. 239-240 of my *Birds of Northumberland and the Eastern Borders*, in which I referred to a Cuckoo seen near his vicarage at Charlton, Northumberland, by the Rev. W. J. Meggison on February 4th, 1877, and again next day, and yet again in the second week in March? Mention is therein also made of two young Cuckoos picked up in an exhausted condition by Mr. Calvert Chrisp, in his garden at Hawkhill, in November, 1876 (exact date not preserved); he took them

into his house, but they soon died. Both these places, it may be added, are within a few miles of Alnwick, and, for the benefit of the incredulous, I may quote the remark which I added to the record in my book, and which, of course, I still stand to—"Extraordinary though these records may appear, no one who knew these gentlemen will cast a doubt upon them." They were both old friends of mine, and I am quite satisfied that neither of them could mistake a Cuckoo for any other bird.

GEORGE BOLAM.

[We are much obliged to Mr. Bolam for drawing attention to these records which we had overlooked.—EDS.]

NOTES ON THE BREEDING-HABITS OF THE LITTLE BITTERN.

MR. A. BURDET of Overveen, Holland, has published in a recent issue of *Ardea* (1916, pp. 59-61) an interesting short article on the breeding-habits of the Little Bittern (*Ixobrychus minutus*) as observed by him near Delft. Mr. Burdet kindly allows us to give extracts from this, and has been good enough to supply two photographs which are here reproduced.

There were not less than five pairs of Little Bitterns breeding on a pond of some two acres in June, 1916, and Mr. Burdet saw three of the nests containing from five to seven eggs each. They were all built in the thickest parts of the reeds, at from 12 to 16 inches above the level of the water, and were constructed of thin reeds skilfully interwoven, while stronger reeds formed a foundation, the whole nest measuring about a foot (30-35 centimetres) in diameter.

The tameness of both parent birds belonging to the nest, which Mr. Burdet photographed, was remarkable. This nest was some six or eight yards from the edge of the pond, and the author placed his camera about a yard and a half away from it, bending back the reeds which obstructed a clear view of the nest. He then built a small "hide" on the bank, from which he could get a good view of the nest and all that went on there, by using a long rod to hold aside the reeds which were fairly thick at this spot. These preparations occupied only a quarter of an hour, but even before the observer was hidden in his "hut," there was a movement in the reeds and the Little Bitterns, evidently having seen the boat disappear, were returning to the nest. The male walked in front, threading his way with ease and neatness through the reeds, which were gripped round with his long and flexible toes. The male settled first on the nest, and took no notice of the noise made by the shutter of the camera as the first plate was exposed,

nor did changing the plate frighten him. The female, meanwhile, was standing at a short distance, but in five or six minutes she began to approach the nest—so slowly that Mr. Burdet was able to expose four plates showing various attitudes of the two birds. At length the male got off the nest and went away, and the female took his place and showed no more fear of the camera than her mate.



LITTLE BITTERN: MALE, ON THE NEST, FEMALE APPROACHING.
(*Photographed by A. Burdet.*)

On June 18th four out of the six eggs were hatched, the young being covered with fine, reddish down. On June 23rd there were six young already sufficiently developed to be able, on seeing Mr. Burdet, to take up their well-known protective attitude, their heads, necks and bodies being stretched up in a perpendicular line, while their colour harmonized with the reddish-brown of the reeds. They could stay in this attitude a long time absolutely immovable, except that as one moved they turned their necks so as to keep their eyes on the intruder.

Mr. Burdet concludes his notes by observing that the young do not stay more than a week in the nest, after which they are able to climb amongst the reeds and follow their parents.



LITTLE BITTERN: NEST AND EGGS.

(Photographed by A. Burdet.)

PINK-FOOTED GOOSE BREEDING IN CAPTIVITY.

FOR about seven years Capt. P. Hamond has had a pair of Pink-footed Geese (*Anser brachyrhynchus*) in his garden at Morston, Norfolk. About June 8th, 1916, they very rapidly constructed a nest, and the goose began to lay on June 10th. She laid five eggs and on July 10th two goslings were hatched, another egg had a full grown chicken in it, and the other two were addled. The goslings grew rapidly, and by October it was difficult to distinguish them from their parents.

A. PATTESON.

[This note furnishes interesting material for comparison with Mr. Cecil Smith's account of the breeding of this species in captivity (*Zool.*, 1872, p. 3243).—F.C.R.J.]

GOOSANDER IN MONMOUTHSHIRE.

A GOOSANDER (*Mergus m. merganser*) was shot at the Ynis-y-fro Reservoir near Newport, Mon., on January 15th, 1917. It was a young male by dissection in first winter plumage and weighed 2 lb 14 oz. The bird is a very unusual visitor to the county.

R. C. BANKS.

BLACK-WINGED STILT IN IRELAND.

EARLY in April, 1916, a Black-winged Stilt (*Himantopus himantopus*) was killed at the Lighthouse on Tory Island, off co. Donegal, and forwarded to Mrs. R. M. Barrington of Fassaroe, Bray. Owing to the Rebellion, and the dislocation of postal arrangements, the bird was almost too far gone for preservation on reaching us, and I was unable to ascertain the sex. This species is extraordinarily rare in Ireland, the last recorded instance being over seventy years ago.

W. J. WILLIAMS.

MOOR-HENS EATING FRUIT.

PERHAPS it is not generally known that the Moor-Hen (*Gallinula c. chloropus*) is partial to ripe fruit.

A gamekeeper friend of mine, whose house and garden stand on a lonely moor in Somerset where Moor-Hens are extremely abundant, informed me last spring that his plums had been partly destroyed by these birds pecking holes in them; they flew into the trees and ate the fruit, discarding the stones. At the Palace Moat, Wells, one evening last September, I noticed a Moor-Hen fly on to a fruit net which was hanging in folds against an apple tree. The bird walked up the fold of the net and pecked vigorously at an apple growing on the tree. There was no doubt that the bird was eating it.

STANLEY LEWIS.

[The Moorhen has been already recorded as devouring pears on a standard tree (*Zool*, 1866, p. 33) and R. F. Toms says it feeds freely on fallen apples (*Vict. Hist. of Worcester*, I.). F.C.R.J.]

HOODED CROW BREEDING IN STAFFORDSHIRE.—Mr. J. R. B. Masfield has kindly pointed out that we have omitted to notice an interesting record of the breeding of a pair of Hooded Crows (*Corvus c. cornix*) in Dovedale in 1915, which appeared in Dr. Shipton's "Zoological Record for Derbyshire" in the *Journal of the Derbyshire Archaeological and Natural History Society* (Vol. XXXVIII., January, 1916, pp. 219

and 221-2). Mr. Masfield also informs us that the nest was on the Staffordshire side of the river Dove. The details given (*loc. cit.*) from information supplied by Mr. E. Grindey are as follows:—The nest was in a small fir about 16 feet from the ground. Mr. Grindey watched one of the birds fly from the nest on May 23rd, 1915. On a second visit he repeatedly saw both birds and satisfied himself that they were both Hooded Crows. He also saw the young after they left the nest. Mr. Grindey shot a Hooded Crow in the breeding season some years ago near the Dale, and is inclined to think that this is not the first time they have bred.

The Hooded Crow has been recorded as breeding from time to time in several of the eastern coastal counties of England. In most of these cases one of the pair was a Hooded and the other a Carrion-Crow, but in a few instances both birds were Hooded Crows. Hitherto, so far as we know, there was only one fully substantiated case of breeding in England outside these limits, viz., in Warwickshire in 1883, both birds being Hooded Crows (*Zool.*, 1883, pp. 337, 423). In Wales it has been recorded as breeding with the Carrion-Crow in Merionethshire and Breconshire.

LATE STAY OF YELLOW WAGTAIL.—Mr. J. Steele Elliott states (*Zool.*, 1916, p. 467) that he saw a *Motacilla f. rayi* on November 11th, 1916, at Newnham, Bedfordshire.

LETTER.

HABITS OF RED-BACKED SHRIKES.

To the Editors of BRITISH BIRDS.

SIRS,—I have read Mr. Owen's most interesting and accurate account of the nesting-habits of the Red-backed Shrike in the January number of *BRITISH BIRDS* (*antea*, pp. 175-180). I have noticed one or two peculiarities which he has not mentioned, viz., that the young brood when satisfied with food, which is, by the bye, not a very usual occurrence, will *warble* and sing while in the nest, as soon as they are feathered, you can see their backs heave and throats move. The song is almost the same as that of the old bird. The young of the Grey Shrikes behave in the same manner.

Again, when the young first leave the nest; which they do when barely able to fly at all, they will at once try and hitch any large morsel on to a thorn or wedge it between two twigs.

E. G. B. MEADE-WALDO.

STONEWALL PARK, KENT, *February 3rd*, 1917.

BRITISH BIRDS

With which is Incorporated
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ASSISTED BY

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THREE BIRDS NEW TO THE BRITISH LIST

CALANDRA LARK IN SUSSEX.

Two Calandra Larks (*Melanocorypha c. calandra*) were shot on a rough piece of ground at Filsham Farm, St. Leonards, a male on May 16th, 1916, and a female on May 17th. There were five in a small party but the others moved on. These two were examined in the flesh by Mr. Ruskin Butterfield.

J. B. NICHOLS.

EASTERN GREAT REED-WARBLER IN SUSSEX.

AN Eastern Great Reed-Warbler (*Acrocephalus arundinaceus orientalis*), a male by dissection, was picked up under the wires by Mr. Pierson of Alfred Street, St. Leonards, on August 24th, 1916, at West St. Leonards. It was seen in the flesh by Mr. Ruskin Butterfield and was kindly examined by Mr. W. R. Ogilvie-Grant, Dr. Hartert and Mr. H. F. Witherby after being set up. Mr. Ogilvie-Grant writes me that he thinks there is no doubt that it is a young *A. orientalis* and that Dr. Hartert agrees. Mr. Witherby is of opinion that it is not a young bird, but an adult just completing its moult.

J. B. NICHOLS.

SEMI-PALMATED RINGED PLOVER IN SUSSEX.

ON April 10th, 1916. Mr. G. Bristow, taxidermist, of Silchester Road, St. Leonards, brought me in the flesh, for identification, an example of the American Semi-palmated Plover (*Charadrius semipalmatus*), which had been shot on April 8th at Rye, Sussex. The bird was subsequently sexed as a female.

The man who shot the bird thought it was an ordinary Ringed Plover, but Mr. Bristow, thinking it too large for a Little Ringed Plover and being puzzled by its semi-palmated foot, brought it to me to examine.

THOMAS PARKIN.

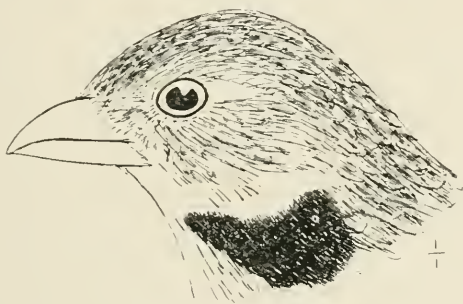
With regard to the birds above recorded, all of which I have carefully examined since they were stuffed, it may be remarked that two examples of the Calandra Lark, said to have been obtained in Devonshire many years ago, have been previously recorded (*Zool.*, 1863, p. 8768, 1869, p. 1599, 1876, p. 4835, see also *Birds of Devon*, p. 103). They were both discovered among bird-skins belonging to dealers by Mr. J. Gatcombe. One was said to have been got near Devonport and the other near Exeter, but no proof of these statements is afforded and even the date of their capture was apparently unknown. These records have, therefore, very properly never been accepted as authentic.

The above record by Mr. Nichols must, however, we consider, be accepted as the history of the birds is clear, and although the species is a favourite cage-bird on the continent, it is extremely unlikely that two examples (or five if we accept those seen) escaped from captivity should be found together. The birds themselves have no appearance of having been in captivity. They are of the typical form.

As this and the two other birds recorded here are new to the British list, I append a description or diagnosis of each, and Mr. Parkin kindly allows me to reproduce a photograph of the Semi-palmated Ringed Plover which he had taken after the bird was stuffed.

CALANDRA LARK (*Melanocorypha c. calandra*).

DESCRIPTION.—*Adult male and female. Winter.*—Crown, hind-neck, mantle, scapulars, back and upper tail-coverts brown



CALANDRA LARK.

to greyish-brown, each feather mesially streaked black-brown very broadly on mantle, less broadly on crown, and narrowly on hind-neck; feathers of centre of mantle with rather conspicuous whitish-brown edges, most feathers of upper-parts in very fresh plumage with very narrow whitish tips which soon wear off; rump brown without dark streaks; lores and line over and behind eye, creamy-white; cheeks whitish, speckled brown; ear-coverts brown; chin, centre of throat and sides of neck below ear-coverts creamy-white sparsely speckled dark brown, except in malar region where speckles form ill-defined stripe; on each side of lower throat conspicuous black patch; upper-breast buffish-white streaked black-brown, rest of breast and belly and under tail-coverts white; flanks, under wing-coverts and axillaries greyish-brown, feathers with very narrow greyish-white tips; tail-

feathers brown-black, central pair widely edged pale brown, outermost pair with outer and most of inner web white, penultimate pair narrowly fringed white and tip white, rest with smaller white tips; wing-feathers brown-black, outer webs narrowly fringed pale brown (in 2nd primary whiter), outer primaries with narrow brownish-white tips, inner primaries and secondaries with wider and whiter tips, except innermost secondaries which are fringed and tipped pale brown; primary-coverts brown-black, narrowly fringed and tipped pale brown; all wing-coverts dark brown fringed and and tipped (broadly in greater and median), pale brown to whitish-brown. This plumage is acquired by complete moult in autumn. *Summer*.—No moult. Abrasion causes very little change, but mantle becomes rather darker owing to wear of brown edges of feathers, streaks on breast and black patches on sides of throat become still more prominent.

Nestling.—(Not examined). *Juvenile*.—(Not examined. I shall be very grateful for the loan of any specimen as there are none in any of the collections to which I have had access.)

First winter.—Apparently like the adults and probably the juvenile plumage is completely moulted in the first autumn as in other larks, but no specimen moulting has been examined.

Measurements and structure.—♂ wing 120-135 mm., tail 57-65, tarsus 26-30, bill from skull 16-20 (12 measured), ♀ wing 110-132. Primaries: 1st minute and less than half primary-coverts, 2nd and 3rd usually equal and longest but 2nd sometimes 1-4 mm. shorter, 4th 1-5 shorter, 5th 8-16 shorter, 6th 13-27 shorter; 3rd to 5th emarginated outer webs. Secondaries between 7th and 10th primaries, square tipped and notched. Tail almost square. Hind-claw straight, spike-shaped and longer than hind-toe. Bill very strong and thick, upper mandible curved and slightly longer than lower. Some small and fine rictal and nasal bristles, and small bristle-like feathers covering nostrils.

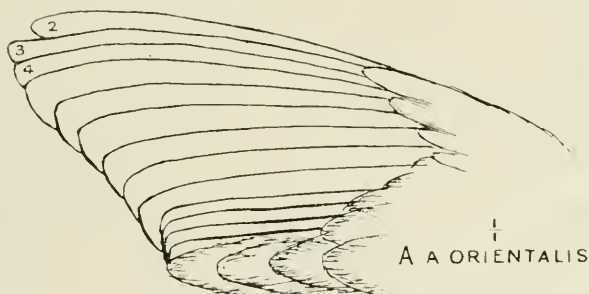
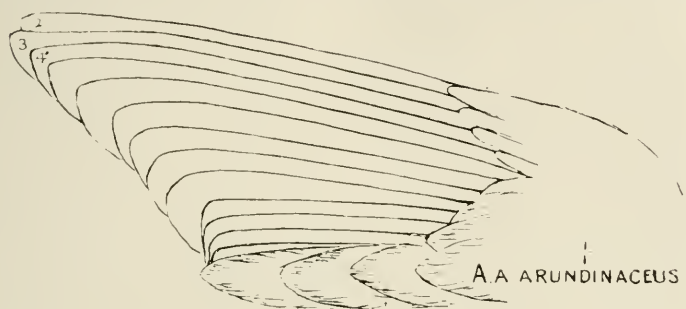
Soft parts.—Bill, upper mandible dark horn, lower yellowish horn; legs and feet yellowish-brown; iris brown.

CHARACTERS AND ALLIED FORMS.—*M. c. psammochroa* (Western Persia, Transcaspia to Turkestan). is paler and rather more sandy on upper-parts and paler on flanks. *M. bimaculata* (Turkestan, Persia, Asia Minor) has not white tips to secondaries and inner primaries. Large size, black patches on sides of lower throat and white on inner web of outer pair of tail-feathers distinguish it from other British Larks.

EASTERN GREAT REED-WARBLER (*Acrocephalus a. orientalis*).

THE tone of colour varies individually in this form as it does in the typical European bird, and neither in winter nor in summer plumage can the two forms be distinguished by their coloration.

The Eastern form, however, is smaller, as will be seen by the measurements given below. The 4th primary is usually longer than the 2nd, but occasionally equal, though never



shorter, while in the typical form the 4th is always shorter than the 2nd. There are also small differences in the relative lengths of the other primaries, as will be seen by the details given below.

The following are measurements in millimetres of twelve males and females of each form :

	wing	tail	tarsus	bill from skull
<i>A. a. arundinaceus</i> ♂	90-103	68-81	27-31	21-24
<i>A. a. orientalis</i> ♂	80-92	66-77	27-30	21-24
<i>A. a. arundinaceus</i> ♀	88-94			
<i>A. a. orientalis</i> ♀	77-84			

A. a. arundinaceus.—Primaries :—1st half to three-quarters as long as primary-coverts, 3rd longest, 2nd 5-3 mm. shorter but exceptionally equal to 3rd, 4th 2-4 shorter than 3rd and always shorter than 2nd, 5th 5-7 shorter and 6th 9-11 shorter than 3rd.

A. a. orientalis.—Primaries :—1st as above, 3rd longest, 2nd 1-4 mm. shorter, 4th occasionally equal to 3rd but usually 1-2 mm. shorter, usually longer than 2nd but occasionally equal to it and never shorter, 5th 2-5 shorter and 6th 5-8 shorter than 3rd.

The legs and feet of *A. a. orientalis* are said to be more blueish-grey and less brownish than in *A. a. arundinaceus*.

The bird recorded by Mr. Nichols is small if correctly sexed, its measurements being as nearly as can be ascertained from a mounted specimen as follows :—wing 78 mm. tail 68, tarsus 26, bill from skull 21.

Its primaries measured as follows :—3rd and 4th equal and longest, 2nd 4 mm. shorter, 5th 2 shorter, 6th 4 shorter. As sheaths were attached to the bases of the 2nd and some of the other primaries when I first examined the bird, the relative lengths might have altered very slightly by perhaps a millimetre of further growth. The tail-feathers were also in sheath. For these reasons I conclude that this bird cannot be a young bird in its first winter plumage, as the young of this and the typical form never moult the wing- or tail-feathers in the first autumn.

SEMI-PALMATED RINGED PLOVER (*Charadrius semipalmatus*).

In their plumage this species and the Ringed Plover are very similar, but there are some distinct differences of which Miss A. C. Jackson has kindly given me notes. These are briefly set out below.

The webbing between the toes which is scarcely noticeable in *Ch. hiaticula* is very distinct in *Ch. semipalmatus* even in newly hatched young. Between the inner and middle toes the webbing measured from the junction of the two toes to the centre of its outer edge is 3 mm., whereas in *Ch. hiaticula* the webbing between these toes is hardly observable. Between the outer and middle toes the webbing measured in the same way extends to 6 mm. in *Ch. semipalmatus*, or expressed in another way the webbing on the inner toe extends in *Ch. semipalmatus* half-way to the first joint while in *Ch. hiaticula* it is only observable just at the base of the toe; on the outer toe the webbing extends in *Ch. semipalmatus* to about half-way between the first and second joints and in *Ch. hiaticula* only to the first joint.



SEMI-PALMATED RINGED PLOVER SHOT AT RYE, SUSSEX, APRIL 8TH, 1916.

*Ch. hiaticula.**Winter males.*

Narrow line on forehead and broader stripe through lores and ear-coverts—black.

Broad band on forepart of crown black.

Nuchal collar black and well defined.

Pectoral band broader and black.

Inner (not the long innermost) secondaries with much more white.

Ch. semipalmatus.

No black line or stripe, these parts being drab colour.

No band of black, but occasionally some black-brown feathers.

Ill defined: sometimes absent and sometimes mixed with drab feathers.

Narrower especially towards the centre and drab inter-mixed with black-brown feathers.

With considerably less white.

Summer males.

Plumage as in winter.

Differs from winter and becomes like *Ch. hiaticula* except for the secondaries which differ as in winter.

Winter females.

Band on forepart of crown black, intermixed with brown feathers.

Nuchal collar black, less well defined than in male and sometimes intermixed with brown feathers.

Pectoral band black, intermixed with brown feathers.

Inner secondaries as in male.

Band absent.

Nuchal collar absent.

Narrower especially towards centre and drab colour not black.

As in male.

Summer females.

Becomes like the male.

Becomes like the summer male but sometimes has drab-coloured feathers in the pectoral band and in the patch below the eye and in the ear-coverts.

Miss Jackson provides me with the following measurements in millimetres of *Ch. semipalmatus*

♂ wing 121–128, tail 48–56, tarsus 22–24, bill 12–14

♀ wing 121–126.5 bill 12–14

In *The Ibis* (1914, pp. 398–9) Dr. P. R. Lowe gave the following measurements of the wings of birds which he separated as *Ch. hiaticula hiaticula* ♂ 120–132 (one 112 and one 116), ♀ 124–130 (one 117), *Ch. h. major* ♂ 127–138, ♀ 127–136.

H. F. WITHERBY.

These species and subspecies being new to the British list should be added to the *Hand-List* as follows :—

MELANOCORYPHA CALANDRA

58a. *Melanocorypha calandra calandra* (L.).—THE CALANDRA LARK.

ALAUDA CALANDRA Linnaeus, *Syst. Nat.*, Ed. XII., I., p. 288 (1766—"Habitat circa Pyrenaeos.")

Melanocorypha c. calandra, J. B. Nichols, *Brit. B.*, X., p. 254.

DISTRIBUTION.—*England*.—Two obtained (from party of five) at Filsham Farm, St. Leonard's-on-Sea (Sussex), May 16th and 17th, 1916 (*ut supra*). Two said to have been obtained in Devon (*Zool.*, 1863, p. 8768, 1869, p. 1599, 1876, p. 4835), not considered authentic.

DISTRIBUTION.—*Abroad*.—South Europe: Spain and south France, Mediterranean Islands to Balkan Peninsula and south Russia (as far as the Caspian Sea), Asia Minor and Armenia, Palestine, also Morocco, Algeria and Tunisia. Occasional stragglers in Heligoland and in Germany; as this Lark is often kept in cages, single occurrences require careful consideration. Replaced by another race in western Persia, Transcaspia, to Turkestan.

135a.—*Acrocephalus arundinaceus orientalis* (Temm. & Schleg.).—THE EASTERN GREAT REED-WARBLER

SALICARIA TURDINA ORIENTALIS Temminck & Schlegel, Siebold's, *Fauna Japon.*, Aves p. 50, pl. XXB. (1847—Japan, Borneo, Celebes Sumatra).

Acrocephalus arundinaceus orientalis, J. B. Nichols, *Brit. B.*, X., p. 254.

DISTRIBUTION.—*England*.—One. Male at west St. Leonards-on-Sea (Sussex), August 24th, 1916 (*ut supra*).

DISTRIBUTION.—*Abroad*.—Breeds in south-east Siberia, west as far as the Argun River, in the oases of Central Asian desert, north and middle China to the Yang-tse-kiang and Fokien. Migrant, passing through China and wintering as far south as the Philippine and Sunda Islands and even Celebes and the Moluccas, west to the Malay Peninsula and Andamans.

CHARADRIUS SEMIPALMATUS

358a.—*Charadrius semipalmatus* Bp.—THE SEMI-PALMATED RINGED PLOVER.

CHARADRIUS SEMIPALMATUS Bonaparte, Journ. Acad. Nat.-Sci., Philadelphia, V., p. 98 (1825—North America).

Charadrius semipalmatus, Thomas Parkin, Brit. B., X., p. 254.

DISTRIBUTION.—*England*.—One. Female, Rye (Sussex). April 8th, 1916 (*ut supra*).

DISTRIBUTION.—*Abroad*.—Breeds in North America from Cumberland Sound and Melville Island to the Upper Yukon, southern Mackenzie, Keewatin and Gulf of St. Lawrence. Winters from Lower California, Louisiana and south Carolina throughout South America to the Galapagos Islands, Chile and Patagonia. Single specimens are known to have occurred in Bermuda and Greenland and it has been observed on the shores of the Tchukchi Peninsula where it probably nests.

AUTHORS OF THE HAND-LIST.

BIRDS AT DUNGENESS, 1916.*

BY

H. G. ALEXANDER

DURING 1916 I visited Dungeness and Romney Marsh several times in the spring for a day or more, and once in the autumn for a week. The following observations seem worthy of record:—

On January 18th I saw an immature ICELAND GULL (*Larus leucopterus*) on the shingle, and I understood that it had been seen from time to time for some weeks. This winter (1916-17) it seems that no bird of this species has yet been observed (mid-January).

On March 27th, I saw a SPOTTED REDSHANK (*Tringa erythropus*) in Romney Marsh. Nearly a month later, on April 21st, when I revisited the same place, I saw it again, but (if it was the same bird) it had completely changed its plumage, and had become a "Dusky" Redshank. In September I saw several of these birds.

In view of observations made by Miss E. L. Turner and myself on warblers in September it is specially satisfactory to be able to compare the following notes of some *Phylloscopi* seen by Miss Turner on May 17th.

"About 5 p.m. on May 17th, I watched four warblers in the bushes by Lloyds for an hour. They were smaller than the common Willow-Wren, the underparts less suffused with yellow, and the eye-stripe paler. In the light of the setting sun, the breasts looked pearl grey, very different from the common Willow-Wren in full breeding plumage. Three of the birds were hawking for flies in a spirited manner, but the fourth seemed worn out, and sat on a twig on the sunny side of the bush, fast asleep. The latter allowed me to approach quite close. When I was about four feet away, it slipped into the bush, but resumed its former perch and attitude as

* For notes from the same locality in 1915 see *Brit. Birds*, IX., pp. 272-3.

soon as I moved off. The note of the other birds differed from that of the common Willow-Wren. When looking through a tray of skins of *Phylloscopi* some weeks later, I at once picked out *Ph. t. evermanni*, the NORTHERN WILLOW-WREN, as the birds I had seen on May 17th.—E. L. Turner.”

My autumn visit extended from September 6th to 13th. I have never stayed at Dungeness itself at quite that time before, and this fact may possibly account for the unusually interesting birds observed, but the first bird of interest seen was presumably only a straggler.

On the afternoon of the 9th, I came upon a CREAM-COLOURED COURSER (*Cursorius gallicus*) about a mile from the point on the shingle. Its rich colour made it fairly conspicuous against the comparatively dull shingle. Its actions reminded me most nearly of Golden Plover, of which, as it happens, there were three on another part of the shingle; but as I had seen these arrive from the north-east it is certain that the Courser did not come with them. As I approached the Courser it ran more or less away from me, occasionally stopping for an instant to pick something off the ground; I was within about twenty yards of it when it flew. The contrast of the black wing-feathers with the rich buff of the upper-parts gave the bird a most striking appearance as it flew. It did not go far, and I continued to watch it for a long time. It was an adult bird. Next morning it had gone.

On the 12th I found an unusually large number of *Phylloscopi* and other warblers in a clump of willow-bushes. Altogether there must have been eight or ten birds, but they refused to show themselves well. The majority were Willow-Wrens (*Ph. trochilus*) but I several times saw one bird whose actions, size and shape seemed to denote a *Hypolais*, and at length I satisfied myself that it was an ICTERINE WARBLER (*H. icterina*). I was puzzled to hear, from time to time, a peculiar note, certainly not the normal Icterine note, but in the end I came to the conclusion that this was uttered by one of the

Willow-Wrens. Miss Turner arrived at Dungeness in the middle of the day, and in the late afternoon we went to investigate these Warblers again. On our way, we put an AQUATIC WARBLER (*Acrocephalus aquaticus*) out of a low broom-bush. The birds in the willows were acting quite differently from in the morning, coming to the tops of the bushes as if for the purpose of being more easily identified. There were fewer Willow-Wrens, but we had good views of two Icterine, and heard the proper *Hypolais* note more than once.

Next morning (13th) before 8 a.m. we found a *Phylloscopus*, to all appearance a Willow-Wren, uttering the peculiar note I had heard the day before, in a small gorse-patch close to the east coast. An hour later this small patch contained a Whitethroat, a Lesser White-throat, and three Willow-Wrens. Two of these three were making the peculiar note. All were skulking, and dashed from bush to bush without showing themselves well. But in time we got good views of all; all had pale legs, but the birds with the peculiar note seemed a trifle slimmer and distinctly paler and greyer in colour than the other one. We concluded that they must be *Ph. t. evermanni*. In a gorse-row further from the sea we found a third bird of this type, and in the willows a fourth, besides three or four of the normal type (*Ph. t. trochilus*), and at least two (possibly three) Icterines; but at this time of day the birds were all again very skulking. The note uttered by these Northern Willow-Wrens was distinctly shriller than that of our resident bird. It seems remarkable that there should be a clear distinction between the call-notes of *Ph. t. trochilus* and *Ph. t. evermanni*, as well as between *Ph. c. collybita* and *Ph. c. tristis*, although the call-notes of our resident Chiffchaff and Willow-Wren are, as far as I can judge, absolutely identical, though I understand that some ornithologists have been able to distinguish them, and also, I suppose, to distinguish both from the autumn call-note of the Redstart.

However, Chiffchaffs have also been recorded in this country interspersing their normal song with a close reproduction of the Willow-Wren cadence; whilst some at least of the Chiffchaffs of the Iberian peninsula and a proportion of those inhabiting south-west France have a distinct song of the Willow-Wren type, although, so far as I know, it has not been shown that the Iberian Chiffchaff is worthy of even subspecific rank. It would seem that the notes and songs of *Phylloscopi* need careful investigation in relation to their specific and subspecific divisions. Can it be that, in the case of the *Phylloscopi*, differentiation in call-notes and song is one of the first signs of an "incipient variation"? This would not explain the unusual approximation of the call-notes of *Ph. t. trochilus* and *Ph. c. collybita*; but it provides a possible explanation of the unusual differentiation for subspecies between the call-notes of *Ph. c. collybita* and *Ph. c. tristis*, of *Ph. t. trochilus* and *Ph. t. evermanni*, and between the song of the Iberian Chiffchaff and that of normal *Ph. c. collybita*. I believe there is some difference between the call-notes of the subspecies of *Motacilla flava*; but my limited experience does not provide any other instance of a clear distinction between the call-notes or songs of subspecies.

I think it may be worth while to note that on the 12th I saw a SWIFT (*Apus a. apus*) flying north-west about 9 a.m., and between 4 and 6.30 p.m. about thirty arrived from the south-east and passed inland. On the 13th we saw one again at noon, but we left soon after 2 p.m. These were the only Swifts I had seen for weeks. From observations made on that part of the coast and inland in certain other years I am of opinion that this late east to west migration of Swifts in September is a frequent, if not annual, occurrence. The wind, which had been fresh from the north-east from the 6th to 10th, and very light on the 11th, was light from points between north and west on the 12th and 13th

MORTALITY AMONG BIRDS DURING THE FEBRUARY FROST IN WEST CORNWALL.

BY

H. M. WALLIS.

UNTIL the last week in January, 1917, the weather was genial. On the 17th, and again on the 24th, a *Phylloscopus*, probably a Chiffchaff, and almost certainly the same bird, was taking flies off the surface of a running brook at Helston. After the latter date frost set in and the small creature was seen no more.

Probably owing to some change in habit of moles and mice during snow, there was a complete alteration in the behaviour of a Barn-Owl, which relinquished its daylight quarterings of a rushy marsh, and perchings upon the ground beside drains. Since the snow went he has resumed his beat.

Large flocks of Lapwing and Black-headed Gull appeared, increasing as the frost hardened and far exceeding their food supply. Lapwings haunted the town rubbish-tips and disputed morsels with the Gulls, Jackdaws and Starlings, but came off badly. They frequented little town gardens, tripping feebly on tiny grass-plots in front of suburban houses, pecking among gooseberry-bushes at the back, constantly chased by lapdogs, but constantly returning. They came to the windows for food, and died in gardens, beside roads, and in every field, and along frozen drains.

Black-headed Gulls alighted in the principal street of Helston by six and seven at a flight. I saw Song-Thrush, Jackdaw, Starling, Meadow-Pipit, Chaffinch and Pied and Grey Wagtail in Coinagehall Street at different times during the frost.

Redwings swarmed, but neither they nor Fieldfares accommodated themselves to the conditions, or grew bold. They died in incalculable numbers in ditches and woods.

Small birds of prey had the times of their lives. I counted four headless Redwing lying beneath one bough, presumably the work of a cock Sparrow-Hawk which was much in evidence. Other predacious birds, possibly Magpie and Jay, both present, sucked the brains of countless Redwing: there was little else on the bodies worth eating. Blackbirds suffered in the same manner, chiefly hens, or birds of the year, Starlings likewise.

During one walk I counted ninety-five corpses. Eighteen lay stranded at one bend of a stream and nine more a little farther on. These were not small birds, but Lapwing, Black-headed, Common and (one) Herring Gull. The bodies lay

packed side by side as on a poulterer's slab and were intact ; a week later, Gulls and Tits were at them. A living Black-headed Gull allowed me to lift it ; the creature weighed no more than a Thrush and was unable to walk.

The species chiefly affected were as follows roughly in order of mortality : Lapwing, Redwing, Blackbird, Black-headed Gull, Starling, Song-Thrush, Fieldfare, Golden Plover, Common Gull, Herring-Gull, Chaffinch. Besides these which I saw myself, my friends speak of having seen dead Rooks, Jackdaws, Mistle-Thrush, Snipe, Moor-Hen, Water-Rail, Sky-Lark, Wren and Rock-Pipit. I have also come across the remains of some Coots.

I think Kestrels left us during the hard weather, as did the Ravens seen in January. Carrion-Crows and the Tawny Owl were constantly heard.

Larks almost disappeared. Native birds wholly went. I only saw a single Greenfinch. Bullfinches and Linnets were fairly abundant and apparently unaffected, as were Chaffinches, save in a single instance. No species of Bunting remained.

We were visited by Turnstone, Redshank, Curlew, Jack Snipe, Ringed Plover, Dunlin and Snipe ; also by hundreds of Wigeon ; numerous, but somewhat fewer Pochard, Teal and Mallard. Perhaps a score of Shoveler were in daily view, but they did not always keep in flock ; nor did the still more numerous Tufted Duck, which habitually consort with Coot rather than with Pochard. Pintail and Scaup dropped in for a day at intervals, as did the Red-throated Diver and Eared Grebe. None of these water-fowl seemed weak or suffering, but at Falmouth, the Swanpool Coots were pinched, sitting dejectedly upon the ice, or scrambling for *crumbs* like fowls in a farmyard.

All the ordinary Tits survived the frost, but I have seen few Long-Tailed Tit, and no Goldcrest since February 1st. Water-Rails have been unusually visible and vocal, and some must have suffered, but this bird creeps into hollow willows to die and its remains escape notice. Even the Green Woodpecker has been more familiar than its wont.

A female Stonechat, seen on February 27th, had probably survived the visitation ; it seems too early for a migrant. The weather is said to have been the hardest and longest cold here since the Crimean War, or some such forgotten date.

It has broken now, February 8th, but the Lapwing are gone. Except withering remains everywhere not a bird is to be seen.

NOTES

LATE STAY OF YELLOW WAGTAIL IN CUMBERLAND.

ANENT Mr. J. Steele Elliott's record of a *Motacilla f. rayi* seen in Bedfordshire on November 11th last (as quoted on p. 252, *antea*), the date is so unusual that it may be as well to put on record that I saw a single individual at Alston in Cumberland, on October 31st, 1916, and again at the same spot on the following morning. Both days were exceedingly stormy, with south-westerly gales and heavy rain, and the bird was seeking what shelter it could find in the lea of a small wood close to the town. The wood was full of newly arrived Red-wings and Fieldfares, and on November 1st the Wagtail had for a companion a hen Redstart. Next day neither could be found. The Yellow Wagtail is quite an unusual visitor here ; this individual had apparently received some slight damage to one wing (quite likely from the storm) as it flew a little lop-sided.

It is interesting to note that in his *Fauna of Lakeland* (p. 112), Macpherson referred to a Yellow Wagtail seen near Carlisle on November 27th. 1890. GEORGE BOLAM.

BLACKBIRD'S NEST AND EGGS IN JANUARY IN HERTFORDSHIRE.

ON January 8th, 1917, Dr. Arthur H. Foster discovered at Holwell a nest with two fresh eggs of a Blackbird (*Turdus m. merula*). W. PERCIVAL WESTELL.

LATE NESTING OF SWALLOWS IN CHESHIRE.

ADVERTING to the recent notes on this subject (*antea* pp. 137 and 246), it may be of interest to record that at Grappenhall, I ringed a brood of four Swallows on the evening of September 22nd, 1916. These birds left the nest while ringing was in progress, but it is not improbable that they would not have left until the next day or perhaps later, if they had not been disturbed. OSWALD WILKINSON.

UNUSUAL BIRDS IN SHROPSHIRE.

THE recent frost brought into Shropshire the following locally uncommon waterfowl.

GADWALL (*Anas strepera*). A female was shot on the mere in Weston Park (Lord Bradford's seat) on February 5th, 1917 ; fifth record of this species in Shropshire.

SMEW (*Mergus albellus*). A female was shot on Aqualate Mere, near Newport, on February 1st.

BRENT GOOSE (*Branta bernicla*). One was shot out of four at a spring in a stubble field three miles from Shrewsbury on February 10th : this species rarely visits Shropshire, having been recorded only five times previously.

KITTIWAKE GULL (*Rissa tridactyla*). Three were on the frozen Severn at Shrewsbury from February 7th to 16th. This gull, as a rule, only occurs here very occasionally when driven in by gales. H. E. FORREST.

UNUSUAL BIRDS IN BERKSHIRE.

THE following rather unusual visitors taken in Berkshire, all about February 10th, 1917, are perhaps worth recording :

WAXWING (*Bombycilla garrulus*) a male, at Binfield.

PEREGRINE FALCON (*Falco peregrinus*) a female, at Moulsoford.

SHOVELER (*Spatula clypeata*) a male, from the Kennet.

SMEW (*Mergus albellus*) a male, at Hardwick.

PUFFIN (*Fratercula arctica*) one found in a garden at Shinfield. HEATLEY NOBLE.

The following may be added to the above :

POCHARD (*Nyroca f. ferina*), two shot out of a flock of seven at Appleton on February 19th, 1917.

GOLDENEYE (*Bucephala c. clangula*), an immature male shot at Appleton on February 17th, 1917 ; also a female sent in from Appleford on February 24th. F. C. R. JOURDAIN.

UNUSUAL BIRDS IN OXFORDSHIRE IN 1915.

LITTLE OWL (*Athene n. noctua*). On May 28th, near Islip, I saw one in the road. When I had approached to within a few feet, it flew up into a big oak in the hedge and remained there in full view, being remarkably tame and taking no notice of two motors which passed. On the 30th I saw the bird again in the same spot. It appeared to be getting beetles in the road. On June 19th I saw another Little Owl near Wood Eaton, but this individual was not so tame as the other.

CORMORANT (*Phalacrocorax carbo*). On October 31st I saw a Cormorant fly up from the river between Sandford and Nuneham. This bird seems to be seldom recorded in Oxfordshire and the same may be said of the next.

GREENSHANK (*Tringa nebularia*). On May 29th one got up near the river between Godstow and King's Weir, and, rising to some height, went off down river. Soon afterwards I saw (and heard) what must have been, I think, a different individual flying round below Wytham Woods.

HUGH G. ATTLEE.

SPREAD OF THE LITTLE OWL IN SOUTH OXFORDSHIRE AND NORTH BERKSHIRE.

As it is of some importance to record the exact dates on which the Little Owl first made its appearance in this district, the following notes may supplement Mr. Attlee's records given above: In November, 1911, Mr. R. W. Calvert saw a Little Owl by the roadside at Fyfield, between Burford and Stow in south Oxon. In April, 1913, he also flushed one from a hollow oak near Ascott-under-Wychwood. On July 21st, 1914, Mr. F. Menteith Ogilvie saw one in his garden on the Woodstock Road, Oxford, which allowed him to come within ten yards before flying off. Mr. R. W. Calvert informs me that three pairs bred in 1916 near Clanfield in south-west Oxfordshire. Two of these hatched off successfully, and the third nest contained four eggs on April 21st. On July 26th, 1916, Miss Longland saw a Little Owl in the middle of the road at Frilford, about four miles west of Abingdon, Berkshire. This bird like most of the others, was remarkably tame, and allowed her to come within a few yards. All previous records of this species in Berkshire are from the eastern side of the county.

F. C. R. JOURDAIN.

LITTLE OWL BREEDING IN ESSEX.

IN April, 1914, I found two nests of the Little Owl (*Athene n. noctua*) containing three eggs each in the neighbourhood of Brentwood. Both nests were in the same field and were in small holes in old oak trees. I have frequently observed Little Owls in other parts of Essex, notably round Epping, but do not know if nests have been reported before from this county.

D. H. MEARES.

[The Little Owl has been recorded as breeding in northern Essex by Mr. J. H. Owen (Vol. VI., p. 63), and by Miss C. J. Gurney (Vol. VII., p. 85).—EDS.]

LITTLE OWL IN CHESHIRE.

ON March 3rd, 1917, a Little Owl (*Athene n. noctua*) flew out of a thorn hedge in full daylight at Blaeon, two miles from Chester, and was shot by Mr. R. Farmer of that city, who presented it to the Grosvenor Museum. The curator, Mr. A. Newstead examined it and found it to be a female in good condition. Its stomach contained the remains of mice or voles, wing-cases of a beetle (*Aphodius*), besides some quartz and plant roots. I believe this is the first recorded instance of the Little Owl's occurrence in Cheshire since 1902, and may mark its spread from the neighbouring counties of

Staffordshire and Shropshire. (cf. *Brit. B.*, I., p. 335; III., p. 307; V., p. 245; VIII., p. 18; IX., p. 250).

W. HENRY DOBIE.

COMMON BUZZARDS IN SUSSEX, HERTFORDSHIRE, BERKSHIRE AND HAMPSHIRE.

IN connection with the Rev. F. C. R. Jourdain's note (*antea*, p. 188), it may be of interest to record that on August 12th, 1916, a similar afternoon and at about the same time of day, I saw what I feel quite sure were a pair of Common Buzzards, drifting at a great height from west to east over Abbott's Wood, Sussex.

Like Mr. Jourdain's birds they were soaring in intersecting circles without any apparent wing movement, and had broad wings. I was photographing butterflies at the time and had my head under the focussing cloth, when my attention was arrested by a rather sharp note, difficult to put down, and my first thought when I emerged from the focussing cloth was of Curlews migrating fairly low, so well did the sound carry. The birds were then right over head, and they continued to call until out of sight.

On March 31st, 1911, I watched three Common Buzzards soaring in intersecting circles over a wood in the New Forest, which may be interesting, as the local naturalists state that they do not nest there now, but I think rather that it is a case of not being able to find their nests. C. W. COLTHRUP.

EARLY in February, 1917, a large bird of prey was reported by my wife as having been seen close to my house at Hitchin, and on February 5th I saw this bird at close quarters and identified it as a Common Buzzard. I know the bird well, having seen it many times in Wales and elsewhere.

J. BEDDALL SMITH.

Since recording the passage of six Buzzards over Appleton, on August 5th, 1916, I have received an interesting piece of confirmatory evidence from Mr. G. Tickner. On September 7th, 1916, while shooting near Chilswell Farm, about two miles south-east of Cumnor, Berkshire, he saw two Buzzards pass over. They came fairly close, and he was able to note the soaring flight and to identify them as Common Buzzards (*Buteo buteo*). At the time when he mentioned this to me Mr. Tickner was unaware that I had already recorded the presence of this species.

With regard to their presence in the New Forest, there is no doubt as to their having bred there quite recently. In 1915 at least one brood was hatched off. Mr. Witherby

informs me that he has seen Buzzards in the New Forest at all times of the year for some years. F. C. R. JOURDAIN.

WHITE STORK IN OXFORDSHIRE.

ON October 15th, 1916, Miss M. Price saw a White Stork (*Ciconia c. ciconia*) in Port Meadow, near Oxford. She first noticed it on the wing and saw it settle about a hundred yards away. It remained in view for about a quarter of an hour, during which time Miss Price and a friend who accompanied her had good opportunities of observing it, and noticing the differences between it and a Heron which was in sight at the same time. Miss Price is also familiar with the appearance of the Stork in Holland, so that there could be no possible mistake as to its identity. When last seen it was flapping slowly towards Wolvercote. F. C. R. JOURDAIN.

"CONTINENTAL" WOOD-PIGEONS AND BLACKBIRDS.

SPORTSMEN and others frequently state that "Continental" Wood-Pigeons can be distinguished from our home-bred birds. The distinctions are usually very vaguely expressed, but recently Mr. J. Whitaker has given a more detailed account of the differences as noticed by him in birds shot on January 23rd (*Field*, 3. II. '17, p. 186). He states that the "Continental" birds are "duller" in plumage and have either no white or very little on the side of the neck. Recently a correspondent described the supposed continental bird in much the same terms and sent me some of the primary-coverts which were tipped with brown. These feathers proved that this particular bird was undoubtedly a young one not yet moulted into the first winter plumage when it becomes practically like the adult. The want of white on the neck also shows that these birds are young ones probably in various stages of moult. Young Wood-Pigeons are frequently very late with their first moult. I have one shot on February 14th, which is only half way through the moult and have seen others in January and February and Mr. B. B. Riviere writes me as follows: "When shooting Wood-Pigeons this winter, I have been struck by the lateness of the moult from juvenile to first winter plumage in this bird. The following are dates on which birds in juvenile plumage were killed:—One on December 16th, four on the 18th, two on the 30th, and one on January 4th; the three last were beginning to moult, having a few new white-tipped feathers showing on the neck patches."* Normally the juvenile seems to moult from

* Since I wrote this note Dr. Riviere has published his observations (*Field*, 17. II. '17, p. 263), and his conclusions coincide with mine.

August to October, and probably these late moulting individuals are birds which have been hatched in late autumn or even winter. The above facts, no doubt, account for the supposed differences, so often noticed, between home-bred and so-called "Foreign" or "Continental" Wood-Pigeons. The origin of flocks which appear in any district cannot be known, they may have come from overseas and they may have come from other parts of the British Isles and while I do not deny that Wood-Pigeons do come over from the continent in considerable numbers, it should be pointed out that if there are two distinct European forms they must be differentiated by the comparison of birds whose breeding places are known for certain.

It has also been a belief on the coast of Norfolk that the migrant Blackbirds which appear there are distinguishable from our home-bred birds. It is usually said that the males are smaller and have black-bills, but all male Blackbirds in their first winter (until about January or February) have blackish bills and such birds would be slightly smaller on the average than adults. At the meeting of the British Ornithologists' Club, held on December 13th, 1916, Mr. C. D. Borrer exhibited wings and heads of some of these migrant Blackbirds shot on the Norfolk coast in November (*cf. Bull. B.O.C.*, Vol. XXXVII., p. 19) and these undoubtedly belonged to first winter birds, as could be seen by a certain number of brownish feathers on the heads and by the worn and brownish outer feathers of the greater wing-coverts (*cf. Ticehurst, Brit. B.*, III., p. 323).

H. F. WITHERBY.

RARE TYPE OF REDSHANK'S EGGS.

ON May 10th, 1914, the late Capt. C. S. Meares took a remarkable clutch of three eggs of the Redshank (*Tringa totanus*) in Norfolk. Incubation had commenced. The ground-colour is distinctly *green*, without a trace of buff, and the markings are slighter and darker than the average. Though I have examined scores of nests I have never seen Redshank's eggs before which showed a green ground-colour, nor are any examples figured in Poynting's "*Limicolæ*." The eggs are slightly smaller than the average, and are less bulky at the larger end than most eggs of this species.

D. H. MEARES.

SPOTTED REDSHANK IN SUSSEX IN WINTER.

ON January 4th, 1917, I heard the note of a Spotted Redshank (*Tringa erythropus*) on Crowhurst Marshes, close to St. Leonards-on-Sea. Shortly afterwards I heard the bird

again and saw it well as it flew over. This species is very rarely seen in mid-winter, I believe. HUGH G. ATTLEE.

BLACK-TAILED GODWITS IN LANCASHIRE.

IN Mitchell's *Birds of Lancashire*, only three individual records are given of the Black-tailed Godwit (*Limosa limosa*) for Lancashire. In *British Birds*, Vol. V., p. 249, I gave two further records, and since then have to record the following :—

1. One shot by E. Webster on Longton Marsh near Preston on the autumn of 1899.

2. One obtained by the writers of the report in the Ribble Estuary on November 13th, 1909 (*Birds of the Ribble Estuary* : Charnley & Heathcote).

3. "Mr. L. Greening informs me that about October 1st, 1912, one was obtained at Hale in Lancashire." (T. A. Coward : *Report of Lanes & Cheshire Fauna Survey*).

4. Mr. E. Murray informs me that he saw one at close quarters in the Lune Estuary on August 1st, 1913.

5. Mr. H. P. Hornby informs me that he shot one near St. Michaels-on-Wyre on November 17th, 1916, the third in forty-five years. (The other two are among the three mentioned by Mitchell.)

6. Mr. T. A. Coward writes me that he saw two among a lot of Bar-tailed Godwits (*Limosa lapponica*) on the Ainsdale shore on August 26th, 1916.

These new records bring up the total for Lancashire from five to eleven, or since Mitchell's second edition appeared in 1902, from three to eleven.

H. W. ROBINSON.

MOOR-HENS EATING FRUIT.

I HAVE just been reading Mr. Lewis's interesting note on this subject (*antea*, p. 201). This delightful but omnivorous bird, where unmolested and in any numbers, and where, as here (near Petersfield), its home is a stream that runs through a garden, takes toll of most things that the gardener grows. It is so quiet, so clever, so self-possessed, and looks so innocent that it may do much harm before it be found out.

Again, Moor-Hens are very fond of yew-berries. Our steep hangers are full of yew trees that undergrow the beech. In early autumn, when the yews are in ripe berry, the Moor-Hens will leave their pool, cross the intervening grass land, and go up into the dry hangers, where they walk about the boughs of the yews taking the berries. I do not remember to have seen a Moor-Hen actually up in these dry chalk hangers at any other time of the year.

AUBYN TREVOR-BATTYE.

ALBINISTIC BEAN AND PINK-FOOTED GEESE IN CUMBERLAND.—A Bean-Goose (*Anser fabalis*) of a light cream-colour, with pinkish, instead of yellow, legs and feet, was shot near Carlisle in January, 1916. A cream-coloured Pink-footed Goose (*A. brachyrhynchus*) was obtained two years before, also near Carlisle. S. MOUNSEY HEYSHAM.

WRYNECK IN KIRKCUDBRIGHTSHIRE.—In an interesting article on autumn migration at the Little Ross Lighthouse, Mr. W. Begg states (*Scot. Nat.*, 1917, p. 4) that a *Jynx torquilla* struck this light in the third week of November, 1916.

THE LATE GEORGE STOUT.—We greatly regret to learn from the *Scottish Naturalist* (1917, p. 1) that George Stout, well known to ornithologists by reason of his observations at Fair Isle, was mortally wounded on the Somme and died on November 13th, 1916. Dr. W. Eagle Clarke became acquainted with George Stout, who was the son of a crofter-fisherman at Fair Isle, in 1905. Stout was then sixteen, and evidently a born naturalist, a fact which Dr. Eagle Clarke quickly appreciated. With the latter's help and guidance Stout became an excellent ornithologist and did a great deal of useful work as bird-watcher on the now famous island. He also accompanied Dr. Clarke to St. Kilda, Aukerry and the Butt of Lewis.

LETTER.

SKUAS AND BEARDED TITS IN NORFOLK.

To the Editors of BRITISH BIRDS.

SIRS,—I see that in the last number of *British Birds* (*antea*, p. 244) there is a record of a remarkable migration of Skuas off the Norfolk coast on September 14th. It may be of interest to record that I noticed several on September 9th, about two miles out to sea from Cromer. In this case they were passing down the coast, singly, and not flying due south inland in small parties, as recorded at Blakeney. I could not say to what species they belonged.

Later in the month I spent several days in the reeds on one of the Broad, and was surprised at the great number of Bearded Tits. One could constantly hear their notes in all directions, and though very difficult to distinguish among the reeds, they could often be seen flying above them from one part of the Broad to another, usually in small parties. On several occasions I noticed at least two adult cock birds in the same party, two families having apparently joined together. If Mr. Gurney's estimate (*antea*, p. 235) of the number of nests (80) is not a very low one, one would suppose that they were all concentrated on this one Broad.

D. A. J. BUXTON.

FAIRHILL, TONBRIDGE,

March 11th, 1917.

BRITISH BIRDS

With which is Incorporated
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POLYGAMY AMONG ROOKS.

BY

ERIC B. DUNLOP.

DURING the spring of 1910 I devoted a considerable amount of time to studying the habits of the Rook (*Corvus f. frugilegus*), and much of interest was revealed. One point that appeared was that the Rook is not always monogamous.

At one Rookery a nest was built in a sycamore apart from the remainder, which were for the most part in yews; a good view could be obtained of this nest, with glasses, from above, as the trees were situated on a hillside. The nest was a small one and unfortunately could not be reached by climbing, as the branches in which the nest was built were too slender to support any weight.

Having previously noticed three Rooks about this nest, on the evening of April 15th, I examined it carefully, and found that two birds were sitting side by side in the nest hollow, evidently incubating.

Subsequently this nest was watched carefully, and, on May 1st, about five minutes after they had been disturbed by my approach, two birds returned and went on to the nest, sitting side by side.

After some time, one of them moved aside and allowed the other to come off past it; the former then resumed incubation whilst the one that had left the nest preened its plumage on an adjacent branch. Later the other came off and also commenced preening. Shortly after the cock bird returned with food, both the birds that had been incubating shook their wings and cawed when they saw him approaching. The nest contained small young, and the cock fed both the hens and the young. He went off again as soon as he had disposed of the food. The two hens then went on to the nest, coming off once or twice to preen their plumage later. They were on the nest at the end of half-an-hour when the male returned, but both immediately left it and greeted him with much cawing and wing-shaking. The cock again left and returned after another absence of almost exactly half-an-hour.

The hens were on the best of terms and showed no sign of jealousy. On May 4th the nest was again kept under observation. The male was absent forty-three minutes between two visits. One of the hens went off for a fly and when she returned the other came off the nest and preened her plumage, the former immediately taking her place.

When the cock returned both birds almost mobbed him, so eager were they for food.

The following day, at another Rookery, a Rook was seen to feed a hen on a nest and then go to a nest near by and feed another incubating bird. Here, in more than one case, Rooks were seen feeding young which had reached a fair size ; in these instances the hen Rooks sat by, not receiving any food ; no doubt when the young grow larger, the hens leave them at times, in order to forage for themselves. Later both parents feed the young.

At this Rookery, two days later, two nests, built side by side, which I had previously noticed were apparently cared for by one cock, were kept under observation. One of them evidently contained small young. The cock came and fed the hen and the young in this nest and then departed. Returning after an absence of forty minutes he fed both hens but not the young.

On each occasion both hens quivered their wings at his approach.

The following year I watched closely at both Rookeries, but could detect no case of a cock having more than one hen.

The first of the foregoing instances is somewhat remarkable, for in that case two hens shared the same nest, sat side by side in the same nest hollow, and were obviously on the best of terms with each other.

THE MOULTS OF THE BRITISH PASSERES,
WITH NOTES ON THE SEQUENCE OF THEIR
PLUMAGES.

BY

H. F. WITHERBY.

PART VII.

(Continued from page 134).

GENUS *Muscicapa*.

THE moults and sequence of plumages of the Flycatchers on the British list are very interesting in that they differ in the different species. As I have been unable, for want of material, to trace the moults of the Collared Flycatcher, the following summary refers only to the four remaining species.

The adults in late summer or early autumn have a complete moult in the Pied and Red-breasted Flycatchers, but only moult the body-feathers in the Spotted and Brown. The two latter, however, have a complete moult in winter or spring, while the Pied and Red-breasted have only a partial moult at this season. In the Pied this moult includes all the body-feathers and some of the inner secondaries and wing-coverts, while in the Red-breasted not even all the body-feathers moult and none of the secondaries or wing-coverts.

The moult from the juvenile to the first winter differs in detail in each species. Though all moult the body-feathers, the extent of the moult in the wing-coverts and secondaries varies. The first spring moult is like that of the adult except in the Brown Flycatcher which instead of having at this time a complete moult as the adult renews only its body-feathers and some wing-coverts as in its first autumn moult.

With regard to the sequence of plumages the juveniles in all the species may be generally described as being spotted on the upper-parts. In the Spotted and Brown Flycatchers the sexes are alike in the adult both in summer and in winter and the first winter birds can be distinguished by the pale tips to some of the wing-coverts, though this difference disappears in the summer in the case of the Spotted Flycatcher which has a complete moult in spring. In the Pied Flycatcher the adults, male and female, are very much alike in winter though so different in summer. The first winter birds can be distinguished from the adults by the pale tips to some of the wing-coverts, and in the male by other small differences. In the first summer the female is practically

indistinguishable from the adult female, but the male has small distinctions from the adult male. The Red-breasted Flycatcher differs from all the other species in that the adult male and female differ from each other both in winter and summer. The first winter male and female are, however, alike and only differ from the adult female in having spots at the tips of some of the secondaries and wing-coverts. After the spring moult the male closely resembles the adult male.

SPOTTED FLYCATCHER (*Muscicapa s. striata*).

ADULTS.—The body-feathers are moulted from July to September, but usually the wings, wing-coverts and tail are not moulted before the birds migrate, although occasionally some secondaries and wing-coverts and rarely the central pair of tail-feathers are moulted. From November to March when the bird is in winter-quarters a complete moult takes place, the wing- and tail-feathers and wing-coverts being then moulted as well as the body-feathers. The sexes are alike, and the winter and summer plumages do not differ. The pale edgings to the wing-feathers and wing-coverts become much worn before the new feathers are acquired, and as summer advances the upper-parts become greyer-brown.

JUVENILE.—The upper-parts have a very spotted appearance owing to each feather having a pale buff centre with a narrow dark brown margin; the breast and flanks are also rather spotted than streaked as in the adult, each feather being buffish-white with a margin of dull brown; the median and inner greater wing-coverts have pale buff spots at the tips of the feathers. Sexes alike.

FIRST WINTER.—The juvenile body-feathers, lesser and median wing-coverts and innermost secondaries are moulted from July to September, but not the greater or primary coverts, nor the tail nor rest of the wing-feathers. After the moult the first winter bird can always be distinguished from the adult by the broader pale edgings to the secondaries, and by the spots at the tips of the inner greater coverts, while sometimes a few juvenile body-feathers are also retained.

FIRST SUMMER.—A complete moult takes place as in the adult, but rather later extending until April (exceptionally May). The new plumage is indistinguishable from that of the adult.

BROWN FLYCATCHER (*Muscicapa latirostris*).

ADULTS.—The body-feathers are moulted in July and August, but the wings, wing-coverts and tail are not moulted.

From February to May a complete moult takes place. The sexes and the winter and summer plumages are alike.

JUVENILE.—Appears to be like the adult but with pale buff spots at the tips of the feathers of the upper-parts, the feathers of the under-parts with dusky tips and the wing-coverts and inner secondaries with pale buff tips, but the correct identification of the few juvenile specimens available for examination seems to me uncertain.

FIRST WINTER.—The juvenile body-feathers, lesser and median wing-coverts are moulted in August and September but apparently not the rest of the wings nor the tail. First winter birds may be distinguished from adults by the broader and more clearly defined pale buff or whitish edgings and tips to the greater coverts and in fresh plumage by similar margins to the inner secondaries.

FIRST SUMMER.—The body-feathers are again moulted from February to May, but apparently not the wings, greater wing-coverts and tail. Although becoming much worn in summer some of the pale tips to the greater coverts are usually distinguishable.

PIED FLYCATCHER (*Muscicapa h. hypoleuca*).

ADULTS.—Complete moult in July and August. Early in the year (apparently January to March) most of the body-feathers, three (occasionally four) innermost secondaries, the inner greater wing-coverts (outer very seldom) and sometimes some median and lesser wing-coverts are moulted, but not the rest of the wings nor the tail. The sexes are very much alike in winter plumage, the upper-parts being dark brown, but while the male has usually white or creamy bases to the feathers of the forehead the female has either brown or creamy bases and never white, the rump of the female is brown, but that of the male often (but not always) is a mixture of black and brown, the upper tail-coverts of the male are black with some of the shorter feathers with brown tips while those of the female are usually brown but sometimes black with brown tips, in the female also the tail-feathers are dark brown and never so black or blackish as in the male. In summer the plumage of the female scarcely differs from that of winter, but there is a little more white on the secondaries—the under-parts are rather whiter. The male, however, differs strikingly having a white forehead and glossy black upper-parts, though a varying number of brown winter feathers remain unmoulted especially on the back and rump, the under-parts become pure white, and the new secondaries

and greater coverts black and white, the new median and lesser coverts black, the former occasionally with white tips.

JUVENILE.—The upper-parts are dark brown with a pale buff spot at the tip of each feather, and the under-parts are buffish-white, each feather slightly tipped with dusky-black, giving a spotted appearance, the median and lesser coverts are brown with pale tips, while the tail, wing-feathers and greater coverts are like the adult in winter. Sexes apparently alike.

FIRST WINTER.—The juvenile body-feathers and lesser wing-coverts are moulted in July and August, but not the rest of the wing-coverts nor the wing-feathers or tail. First winter birds resemble the winter adults, but in both sexes the inner secondaries have broader pale margins than in the adults, and the median coverts have whitish tips, while frequently a few unmoulted juvenile feathers with spots at the tips are to be found in the upper-parts. The feathers of the forehead of the first winter male apparently never have white bases. The blackness of the rump, tail- and wing-feathers varies individually both in first winter and in adult males.

FIRST SUMMER.—A moult as in the adults takes place early in the year. The female then becomes indistinguishable from the adult female. The male has the upper-parts more mixed with greyish-black and brown, and usually has less white on the forehead than the adult male, and is sometimes less pure white on the breast. The wing-feathers are more worn and brown than in the adult. Occasional examples, though moulted, are much as in winter with scarcely any black or blackish feathers on the upper-parts and have many dusky-buff feathers on the under-parts.

COLLARED FLYCATCHER (*Muscicapa collaris*).

ADULTS.—No specimens in moult have been available for examination nor have I been able to see any males in winter plumage. The adult female in summer is much like that of the Pied Flycatcher but is rather greyer on the upper-parts and the bases of the feathers of the back of the neck and upper rump are white, concealed in fresh plumage, but showing here and there when worn. In the male, as is well known, there is a broad white collar and the back and upper part of the rump are greyish-white. The primaries of the female have more white at the base than in the Pied Flycatcher. The winter plumage of the female is like that of the summer.

JUVENILE.—(No example seen.)

FIRST WINTER.—No examples in moult and no males in winter plumage seen. The first winter and summer female appears to be like the adult female.

FIRST SUMMER.—The male resembles the adult, but the mantle and scapulars are not so jet-black and there are usually some brownish or greyish feathers on the upper-parts, whereas in the adult summer male of this Flycatcher there are no such feathers as there are in the Pied Flycatcher. The nuchal collar of the first summer male is sometimes indistinct and mixed with grey. The white forehead spot (always larger than in the Pied Flycatcher) varies in size individually and not according to age. The primaries are browner than in the adult and the 2nd to 4th only occasionally have white on their outer webs, while the 5th sometimes has none, and the rest have less white than in the adult. The secondaries are browner than in the adult except the innermost four (exceptionally five) which are newly moulted and like the adult. The primary-coverts and outer greater coverts are brown and old while the rest of the wing-coverts are new and like the adult. Judging by the new feathers it would seem that the moult from winter to summer plumage affects the same parts as in the Pied Flycatcher.

RED-BREASTED FLYCATCHER (*Muscicapa p. parva.*)

ADULTS.—Complete moult in August and September. From February to April a partial moult takes place, the feathers of the chin, throat and breast, crown and some of the other body-feathers being renewed, but many of the body-feathers are not moulted nor are those of the wing-coverts, wings or tail. The winter and summer plumages are alike and at both seasons the female differs from the male in having the crown brown without a greyish tinge. the ear-coverts and sides of neck pale brown instead of grey and the chin, throat and upper-breast buff instead of orange.

JUVENILE.—Somewhat resembling the adult female but the feathers of the upper-parts with rufous-buff centres and narrow dark brown edgings giving a spotted appearance. The chin and throat are pale buff but the breast is of a deeper and more yellowish buff and the feathers are lightly tipped with dusky-brown. The innermost secondaries have small, and the greater and median coverts larger, rufous-buff spots at their tips.

FIRST WINTER.—The juvenile body-feathers, lesser and most of the median wing-coverts are moulted in August but not the rest of the wing-coverts nor the wing- or tail-feathers

In this plumage both sexes are alike and resemble the adult winter female except for the buff spots at the tips of the unmoulted juvenile innermost secondaries, greater coverts and occasionally some inner median wing-coverts.

FIRST SUMMER.—Moult as in the adult after which the male becomes like the adult male except that the orange-red of the breast is usually less extensive and in both sexes the first summer bird may still be distinguished from the adult by the buff tips (or when much worn, traces of these) to the innermost secondaries and wing-coverts.

GENUS *Phylloscopus*.

The adults of the eight British species of this genus all have a complete moult in late summer or early autumn. In the spring there is considerable variation. *Ph. trochilus*, *viridanus*, *sibilatrix* and *borealis* regularly have another complete moult, but in *Ph. collybita* some individuals moult the body-feathers only while others have a complete moult, in *Ph. superciliosus* the body-feathers are moulted, but the wings and tail only occasionally, in *Ph. fuscatus* the body-feathers and innermost secondaries only appear to be moulted, while in *Ph. proregulus* only the body-feathers are moulted.

The moult from juvenile to first winter is in some species confined to the body-feathers, but in others some of the wing-coverts and innermost secondaries are involved.

In all the species the sexes are alike and the differences, if any, in the winter and summer plumages are very small. The juveniles are very much like the adults but generally browner on the upper-parts, though in *Ph. proregulus* and *fuscatus* they are rather more distinct. First winter birds in *Ph. collybita*, *viridanus* and *superciliosus* are like the adults, but in the other species they differ in small details from the adults.

CHIFFCHAFF (*Phylloscopus c. collybita*).

ADULTS.—Complete moult from July to early September. In January and February and occasionally in March, or even early April, there is a moult involving the body-plumage and in some individuals in any case (though probably not in all) the wing-coverts wing-feathers and tail are also moulted. There is no sexual difference in the plumage. The summer and winter plumages of the adults are alike, but by June abrasion has made the upper-parts browner (less greenish) and the under-parts whiter (less buff).

JUVENILE.—Very much like the adult but the upper-parts browner and the under-parts more yellowish-white and the

throat and breast smoky instead of buffish. As compared to the juvenile Willow-Wren the upper-parts are darker, the throat and breast more smoky and the belly whiter and not so yellow.

FIRST WINTER.—The juvenile body-feathers and wing-coverts are moulted in August and September, but not the primary-coverts nor the wing- and tail-feathers. First winter birds cannot be distinguished from adults.

SCANDINAVIAN CHIFFCHAFF (*Ph. c. abietinus*).

Moult as in *Ph. c. collybita*, but the autumn moult is often not complete before October. In winter the bird is like *Ph. c. collybita* in coloration, but in spring and summer the upper-parts are paler and more greyish with very little green and the under-parts are whiter and less buff and yellow.

SIBERIAN CHIFFCHAFF (*Ph. c. tristis*).

Moult as in *Ph. c. abietinus*. In winter the upper-parts usually have a tinge of green, but in summer they are still browner with usually no trace of green.

WILLOW-WARBLER (*Ph. t. trochilus*).

ADULTS.—Complete moult in July and August, sometimes beginning in June. From December to March another complete moult takes place. There is no sexual difference in the plumage. The new spring plumage is like the winter, but perhaps slightly less green and more brown on the upper-parts, and as summer advances abrasion makes the upper-parts still browner and the under-parts whiter.

JUVENILE.—Much as the adult, but the upper-parts brown with only a tinge of olive, belly very pale lemon-yellow and not white as in the adult, upper-breast dusky-buff.

FIRST WINTER.—The juvenile body-feathers are moulted in July and August, but not the wing-coverts, wing- or tail-feathers. First winter birds are more yellowish-brown on the upper-parts and much yellower on the under-parts than adults, the throat and breast being a much deeper yellow and the belly only a shade paler instead of white as in the adult.

FIRST SUMMER.—Moult as in the adult after which they become like the adults.

NORTHERN WILLOW-WARBLER (*Ph. t. eversmanni*).

ADULTS.—Moult as in *Ph. t. trochilus*. In the winter it is impossible to distinguish satisfactorily from *Ph. t. trochilus*,

but after the spring moult the upper-parts are considerably browner, the eye-stripe whiter and the under-parts whiter and less marked with yellow than in *Ph. t. trochilus*. Individuals vary, some having scarcely any green on the upper-parts and no yellow on the under-parts. As summer advances most become pale brown on the upper-parts with just a tinge of green on the wings and rump.

JUVENILE.—Like that of *Ph. t. trochilus*, but rather less yellow on the under-parts.

FIRST WINTER.—Apparently less yellow on the under-parts than first winter, and thus resembling adult winter. *Ph. t. trochilus*.

GREENISH WARBLER (*Ph. n. viridanus*).

ADULTS.—Complete moult from August to October. In March and April another complete moult takes place. The sexes and the winter and summer plumages are alike.

JUVENILE.—Like the adult but considerably browner and less green on the upper-parts.

FIRST WINTER.—The juvenile body-feathers and sometimes the innermost secondaries are moulted from August to October, but not the rest of the wings nor the tail. Plumage as adults.

WOOD-WARBLER (*Ph. s. sibilatrix*).

ADULTS.—Complete moult from July to September. From January to March another complete moult takes place. The sexes are alike. The new spring plumage is like that of winter but considerably brighter, the upper-parts being more golden-green and the yellow of the chin and throat brighter. As summer advances, abrasion makes the upper-parts somewhat greyer-green and the throat becomes less yellow.

JUVENILE.—Like the adult winter, but still duller green with a greyish-brown tinge on all the upper-parts.

FIRST WINTER.—The juvenile body-feathers are moulted in July and August, but apparently none of the wing-coverts nor the wing- or tail-feathers. Plumage as the adult winter but perhaps slightly more tinged with brown on the upper-parts.

FIRST SUMMER.—Moult as in the adult after which the bird is indistinguishable from the adult.

EVERSMANN'S WARBLER (*Ph. b. borealis*).

ADULTS.—Complete moult in August. From January to March another complete moult takes place. The sexes and

the winter and summer plumages are alike. As summer advances the pale tips of the median coverts usually become worn-off and sometimes those of the greater coverts are almost entirely worn away.

JUVENILE.—Like the adults, but the upper-parts considerably less green and strongly tinged with greyish-brown, especially on the crown and mantle, the under-parts whiter—the sides of breast and flanks washed pale brown, pale tips of outer greater wing-coverts whiter and those of median coverts either very small or altogether absent.

FIRST WINTER.—The juvenile body-feathers are moulted from July to September and usually the three innermost secondaries, but not the rest of the wing-feathers and not the wing-coverts or tail, while frequently a number of juvenile body-feathers are retained until the spring moult, which is complete as in the adult. The first winter bird is intermediate between the adult and juvenile in coloration and the wings, wing-coverts and tail become browner as autumn advances, and the pale tips wear off the median coverts and often only a mere trace is left of the pale tips of the greater coverts.

YELLOW-BROWED WARBLER (*Ph. s. superciliosus*).

ADULTS.—Complete moult in July and August. From February to April the body-feathers are moulted but only occasionally the wings, wing-coverts and tail. The sexes are alike. The summer plumage is rather browner on the upper-parts than the winter, and is less tinged with yellowish on the under-parts. Abrasion gradually reduces the pale edgings to the inner secondaries and the pale tips to the median wing-coverts.

JUVENILE.—Like the adult, but considerably browner on the upper-parts and slightly tinged with greyish-buff on the under-parts, and the tips of the greater and median wing-coverts tinged with buff.

FIRST WINTER.—The juvenile body-feathers and lesser wing-coverts are moulted in August, but not the rest of the wing-coverts nor the wing- or tail-feathers. After the moult, the bird becomes like the adult.

PALLAS'S WARBLER (*Ph. p. proregulus*).]

ADULTS.—Complete moult in August and September. In March and April the body-feathers are moulted, but apparently not the wing-coverts, wing- or tail-feathers. The sexes and the winter and summer plumages are alike.

JUVENILE.—Like the adults, but the crown dark sooty-brown instead of green and the eye-stripes and the median stripe on the crown much less distinct than in the adults and pale buff, not so yellow; mantle, scapulars and back brown with only a tinge of green and rump white tinged with buff instead of pale yellow as in the adults; tips of wing-coverts and edgings of inner secondaries yellowish-buff instead of yellow: under-parts pale buff instead of greyish-white tinged with yellow.

FIRST WINTER.—The juvenile body-feathers and apparently the median and lesser wing-coverts and perhaps some of the inner greater coverts and innermost secondaries are moulted in early autumn, but not the rest of the wings nor the tail. Unfortunately I have not been able to examine an example actually in moult from the juvenile to the first winter plumages. After the moult the bird becomes like the adult except that the tips of the wing-coverts are buffish-white and not so yellow.

DUSKY WARBLER (*Ph. fuscatus*).

ADULTS.—Complete moult in September and October. In March and April the body-feathers and the innermost secondaries are moulted, but apparently not the tail nor the rest of the wings. The sexes and the winter and summer plumages are alike.

JUVENILE.—Much resembling the adults but greyer on the breast, not so buff on the flanks and the eye-stripe and ear-coverts greyer and not so buff.

FIRST WINTER.—The juvenile body-feathers are moulted in August but apparently not the wings, wing-coverts or tail. After the moult the bird resembles the adult, but is more yellowish on the centre of the throat and belly and has a yellowish, rather than rufous, tinge on the rest of the under-parts. The spring moult is like that in the adults and after this the bird is like the adult.

RADDE'S BUSH-WARBLER (*Herbivocula schwarzi*).

ADULTS.—Complete moult in early autumn. Apparently no moult in spring. The sexes are alike. Abrasion gradually makes the upper-parts more greyish-brown, less olive, and the under-parts paler and whiter.

JUVENILE.—(Not examined.)

FIRST WINTER.—Those specimens with a considerable amount of yellow on the under-parts may be first winter birds, but as no juveniles and no moulting birds have been available for examination, it is impossible to say.

CETTI'S WARBLER (*Cettia c. cetti*).

ADULTS.—Complete moult in late summer. In March the body-feathers, lesser and median wing-coverts, inner greater coverts and the innermost secondaries are moulted, at all events in some individuals, though others seem not to moult at all in the spring. The sexes and the winter and summer plumages are alike.

JUVENILE.—Like the adults but slightly less chestnut on the upper-parts and the white of the under-parts rather duller.

FIRST WINTER.—The juvenile body-feathers and wing-coverts are moulted in July and August but not the primary-coverts, wing- or tail-feathers. After the moult the bird becomes like the adult.

MOUSTACHED WARBLER (*Luscinola m. melanopogon*).

ADULTS.—Complete moult in early autumn. In February and March the body-feathers are moulted, but not the wings nor the tail-feathers. The sexes and winter and summer plumages are alike. Abrasion gradually makes the crown more uniform black, the mantle more clearly streaked and the under-parts whiter.

JUVENILE.—Like the adults, but the upper-parts more tawny and less chestnut.

FIRST WINTER.—The juvenile body-feathers are moulted from June to August, but not the wing- or tail-feathers. After the moult the bird becomes like the adult.

(To be continued.)

NOTES

UNUSUAL NESTING-SITES OF PIED WAGTAIL.

SINCE several instances have recently been recorded of the utilization of disused nests of other birds by the Pied Wagtail (*antea*, pp 185, 225, 246), it may perhaps be of interest to add another. This occurred in May, 1912, near Tenterden, Kent, where I spent some time photographing the birds feeding their young, the nest being built inside that of a Blackbird of the previous year, situated about seven feet from the ground and about half way up a pyramidal heap of poles near some farm buildings. The Wagtails nest within a few yards of the same spot annually and generally in the top or side of a faggot-stack.

N. F. TICEHURST.

EVERY year I find both Pied and Grey Wagtails utilizing old nests—usually of Blackbirds or Thrushes. Last year a Pied Wagtail built on the remains of a House-Sparrow's nest in an elm at Felsted, and another pair used a Robin's nest very soon after the young Robins had left. Very often the Wagtails seize a nest that has only recently been vacated by the young of some other bird. One such nest was in an evergreen bush where I lived in the town of Oswestry. The Wagtails took possession of a Blackbird's nest and built inside it, covering an addled egg. They had eggs within five days of the young Blackbirds leaving the nest. There was an addled egg in their first set and they added a second lining to cover it and reared a second brood in the same nest. I have frequently seen a Pied Wagtail's nest on the Welsh Border in the remains of a Dipper's nest.

Last April I found two Grey Wagtails (*M. c. cinerea*) nesting in Dippers' nests that had been robbed and partly demolished by country boys

J. H. OWEN.

[Sufficient evidence has now been published to show that the utilization of an old nest of another species by the Pied Wagtail is so frequent that it may be considered almost a normal habit of the bird.—EDS.]

ERYTHRISM IN EGGS OF GREY WAGTAIL AND COMMON TERN.

GREY WAGTAIL (*Motacilla c. cinerea*). In April, 1905, the late Capt. C. S. Meares took a clutch of five eggs near Cilmeri, Breconshire, which were as pink as average Robin's eggs

before they were blown, but the colour subsequently faded to a very light reddish-buff (*vide antea*, Vol. VII., p. 250).

COMMON TERN (*Sterna hirundo*). In June, 1914, the late Capt. C. S. Meares took two beautiful clutches of highly erythristic eggs from the same locality as that alluded to in Vol. VII., p. 256. Each clutch contained three eggs, and the second laying is distinctly brighter than the first set. The clutches are in his collection. D. H. MEARES.

RARE VARIETY OF GARDEN-WARBLER'S EGGS.

IN May, 1914, the late Capt. C. S. Meares took a remarkable clutch of five eggs of the Garden-Warbler (*Sylvia borin*) in Hertfordshire. They are distinctly larger and more bulky than the average and are beautifully and sparingly marked at the larger end only with green and light brown and purplish blotches and spots on a pure white ground-colour, closely resembling in colour a well-known variety of the eggs of the Lesser Whitethroat. D. H. MEARES.

NECTAR-EATING BY BLUE TITS AND WARBLERS.

I HAVE just come across the following note, written for *British Birds* a long time back but overlooked. A fuller note (giving African birds) was published in the *Bulletin B.O.C.* (1914, pp. 132-133).

This April (1914) at Larne I found Blue Tits (*Parus c. obscurus*) freely visiting the flowers of gooseberries and of red-flowering currants (*Ribes sanguineum*). They entered almost entirely by perforations made by them in the side of the calyx-tubes. The complete absence of small insects in the flowers showed clearly that the nectar was the attraction.

I have in Rhodesia seen Garden-Warblers (*Sylvia borin*) and Willow-Wrens (*Phylloscopus trochilus*) entering flowers, visibly for the nectar, the former in one case through artificial openings inflicted by Whydahs. Dr. John Lowe, in the Canaries and Algeria, watched Blackcaps and Garden-Warblers themselves inflicting the perforations.

When I left Larne the tit-damaged flowers (which were numerous) were setting fruit quite as well as the undamaged individuals—so that there is no need to regard the birds as mischievous in this connection. It is true that some of the bees that visited the flowers utilized the openings made by the Tits, but others again used the natural opening even when an artificial opening was present, and to this was obviously due the fact that the damage failed to affect the flowers' pollination.

C. F. M. SWYNNERTON.

WHITE'S THRUSHES IN SUSSEX.

I WISH to record the following occurrences of White's Thrush (*Turdus dauma aureus*) in Sussex.

(1) A male shot at Brede on December 27, 1915. Examined in the flesh by Mr. Ford Lindsay.

(2) A male shot at St. Leonards on February 26, 1916. Examined in the flesh by Mr. W. Ruskin Butterfield.

There was one shot at Brede on November 9, 1914, as already recorded (*Brit. Birds*, Vol. VIII., p. 199). That was a male also. Altogether these seem to make four recorded Sussex specimens.

J. B. NICHOLS.

LITTLE OWL IN CHESHIRE.

REFERRING to Dr. W. H. Dobie's note on the occurrence of the Little Owl in Cheshire (*antea*, p. 271), may I record that on December 13th. 1915, I flushed a Little Owl from a hedge-bottom between Prestbury and Mottram St. Andrews, Cheshire. After following the bird and observing it through my binoculars for some minutes, I returned to the spot where I had flushed it, and there found a Skylark with the head bitten through and still warm.

M. V. WENNER.

EVOLUTIONS OF A PEREGRINE AND STARLINGS
IN BERKSHIRE.

ON March 18th, 1917, a flock of Starlings making its usual afternoon flight near Reading encountered a Peregrine; the following evolutions are not without interest. For the first few moments the Starlings seemed to be mobbing the falcon (were they under the impression that he was a Kestrel? It is improbable that our Starlings are acquainted with the larger falcans). Next moment panic seized the whole flock, which fell out of the sky like a shower of stones, gathering into itself as it neared the grass until it seemed a black ball. When almost in contact with the surface of the meadow it spread out over the ground in all directions like running water, and bore up again dispersedly. The Peregrine, which had stooped and followed the birds down, now stooped again, and I think a third time, very rapidly, but vainly. He, for it was a young male in very dark plumage, then circled and held the sky for some minutes. About two hundred yards away the corpse of a pigeon killed in a manner suspiciously like the method of the Peregrine, suggests that this had been his hunting-ground earlier. I have word of him a week or more later at the same spot. I have seen a male Peregrine

many years ago close to the same field, but in forty years have only seen four falcons within the borough boundaries.

H. M. WALLIS.

SHOVELER AND UNUSUAL NUMBERS OF POCHARD IN BERKSHIRE.

ON March 4th, 1917, near Reading on Whiteknights Lake (merely an artificial pond of no great extent, and entirely commanded by a high road) there were eighty-six Pochard (*Nyroca f. ferina*) twenty Tufted Duck (*N. fuligula*) and a pair of Shoveler (*Spatula clypeata*). We usually have one or two pair of the two first species on this water each winter, but such an incursion is without precedent in my experience. I have no record of the appearance of Shoveler for nearly thirty-five years. On March 12th the Pochards and Tufted were present in reduced forces, the Shovelers still there, and on March 28th there were two Shoveler drakes disputing for a single duck.

H. M. WALLIS.

RARE TYPE OF REDSHANK'S EGGS.

IT may be of interest to record in connection with Mr. D. H. Meares's note (*antea* p. 274) that I have two clutches of the green variety of the Redshank. A clutch of four from Oland, taken June 1, 1908, are from Mr. Meares's description like those taken by his brother. The second clutch of three I took myself in Kent on May 20th, 1916. These are boldly blotched, and the shell-markings are conspicuous, and before blowing they were very much like those of the Spotted Redshank (*T. erythropus*).

The variety must, however, be considered rare, and remarkable owing to the presence of oocyan, *i.e.*, blue or blueish-green pigment,* in the innermost or fundamental lime-layer. This colour is usually quite absent in the type eggs of the Redshank, but normally present in the eggs of the Spotted Redshank, and in one type of the Greenshank, and also in the eggs of other members of the genus.

The green variety occurs in the Golden Plover, Ringed Plover, Kentish Plover, Dotterel and Lapwing, etc. In these cases, however, the presence of oocyan is normal in the innermost lime-layer, consequently here the green variety cannot be considered so remarkable.

The following is a quotation from *Oologia Neerlandica*, by A. A. van Pelt Lechner:—

“The egg depicted in Nozeman (*Nederl. Vogel.* III., p. 259) has an olive greyish green ground colour, which frequently

* *Oologia Neerlandica*, A. A. Pelt Lechner

occurs, *e.g.*, in the eggs of *M. pugnax* and *N. arquata*, but which as far as I am aware has *never* been observed in *T. totanus*.”

PERCY F. BUNYARD.

MOOR-HENS EATING FRUIT.

WITH reference to notes on Moor-Hens eating fruit (*antea*, pp. 251 and 275), I may say that in certain parts of the coast of co. Wexford, Ireland, the sea-buckthorn (*Hippophaë rhamnoides*) has been introduced. In spite of the acridness of the berries, which are most unpalatable from a human point of view, bushes are much visited by birds in November and December: and among them I have frequently seen Moor-Hens, which in some cases must have come from some little distance, stripping the berries off the twigs.

MAUD D. HAVILAND.

HEIGHT AT WHICH BIRDS FLY.—“An Observer” writes (*Field*, 20.1.17, p. 113) that when flying in France in the middle of August, at about 9500 ft., he saw a large flock of birds high above him and with the aid of binoculars he identified them as “Swallows.”

RED-BREASTED FLYCATCHER AND BLACK REDSTART AT THE ISLE OF MAY.—Mr. S. Baigrie states (*Scot. Nat.*, 1917, p. 6) that a *Muscicapa p. parva* appeared at the Isle of May (Forth) on September 28th, 1916, and a *Phœnicurus o. gibraltariensis* on October 28th.

LETTERS.

OCCURRENCES OF THE COMMON BUZZARD.

To the Editors of BRITISH BIRDS.

SIRS,—The repeated notices of the Common Buzzard having been seen in the east and south-east of England are very gratifying to those who have taken much trouble in preserving the nesting areas of this bird in other parts of the British Islands. It points to a possible extension of range, and that at some future date the Common Buzzard may again merit its designation of “Common.” There is hardly a bird that adds more to the beauty of the landscape than the Common Buzzard “on the soar.” I know two parks in the Home Counties in which Buzzards have found asylum this winter, and whence they might be seen daily. These are *Common* Buzzards, not Rough-legged, which are in my experience by far the commoner species in the eastern and south-eastern counties. I think it is to be regretted that localities such as the New Forest should be mentioned as breeding areas, and thus drawing attention to the fact, especially as the New Forest Buzzards have been most carefully preserved, or at least as carefully as possible, during the last thirty-five years by H.M. Office of Woods.

E. G. B. MEADE-WALDO.

STONEWALL PARK, KENT, *April*, 1917.

[We think Mr Meade-Waldo over-estimates the danger of mentioning the "New Forest" as a breeding area. It has been known for many years as a haunt of the Common Buzzard and in 1900 Mr Meade-Waldo himself (*Victoria History of Hampshire*) went so far as to publish the name of the enclosure near which a pair nested in 1896. Although we think it inadvisable to mention such exact breeding localities in the case of rare breeding birds, we consider it equally inadvisable not to record the area. Apart from the great extent of nesting ground in the New Forest, it is improbable that anyone would risk detection by taking an efficiently protected nest in Hampshire when the bird is so common in some parts of Wales.—EDS.]

THE DEVONPORT CALANDRA LARK.

To the Editors of BRITISH BIRDS.

SIRS,—The Calandra Lark obtained near Devonport, which is referred to in the last issue (*antea*, pp. 254, 261) is, I submit, well entitled to some consideration.

From my correspondence with the late Mr. J. Gatcombe about this bird, I am led to believe that the only doubt which that naturalist had about it was the question whether it had escaped from confinement. That it was killed by St. John's Lake, received in the flesh by Abraham Pincombe, the Plymouth bird-stuffer, and mounted at the time by him, was accepted, and a note in Pincombe's hand, now before me, which was forwarded by Mr. Gatcombe, confirms all this.

The Calandra is pretty common in summer in the south of France, so its occasional presence in England is to be expected.

J. H. GURNEY

KESWICK HALL, NORWICH, *April*, 1917.

[As will be seen by consulting the references given in our last number, this bird was found amongst some skins belonging to a taxidermist, and although he "certified" that the bird was killed by St. John's Lake, and that he received it in the flesh, there is no corroborative evidence. We are strongly of opinion that such a record should not be accepted. Moreover, it is stated in *The Birds of Devon*, on the authority of Mr. Brooking Rowe, that "no reliance is to be placed on anything Pincombe says"!—EDS.]

POROUSNESS OF EGG-SHELL OF THE TAWNY OWL.

To the Editors of BRITISH BIRDS.

SIRS,—On April 2nd I found a nest of the Tawny Owl (*Strix a. aluco*) with three eggs in it. I took one of the eggs and found it was fairly hard-set. When I blew the egg, little drops of blood oozed out at both ends of it. I looked very carefully to see if there were any cracks, but the egg was quite sound. I do not know if this is a common occurrence, but it seems worthy of notice, as it shows how very porous the shells of some eggs are.

J. G. MAYNARD.

BOVEY TRACEY, *April* 12th, 1917.

[During the process of blowing some blood evidently penetrated between the internal membrane and the shell. I have often noticed drops of water oozing through the pores of the shell of this species while blowing the eggs.—F.C.R.J.]

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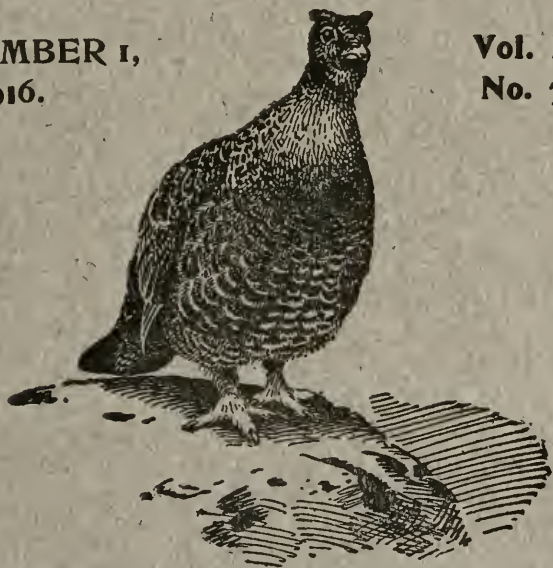
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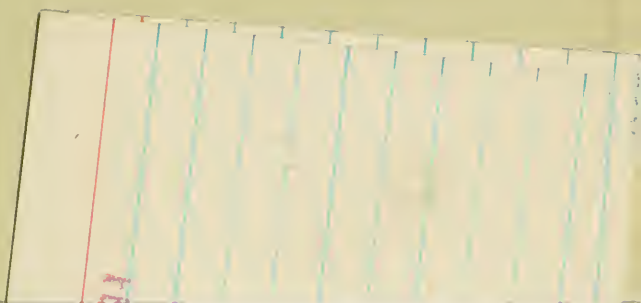
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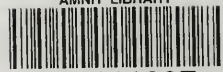
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